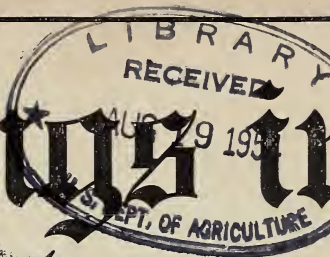


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1899

Gleanings in Bee Culture



of Cal. Duplicate
Withdrawn
January 1, 1909

VOL. XXXVII

No. 1



The Rapid Destruction of a Bee Flora by Forest Fires





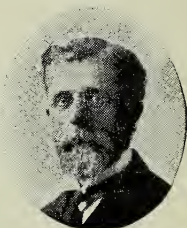
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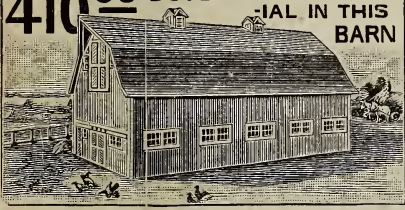
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Honey Markets.

The prices listed below are intended to represent, as nearly as possible, the average market prices at which honey and beeswax are selling at the time of the report in the city mentioned. Unless otherwise stated, this is the price at which sales are being made by commission merchants or by producers direct to the retail merchant. When sales are made by commission merchants, the usual commission (from five to ten per cent), cartage, and freight will be deducted, and in addition there is often a charge for storage by the commission merchant. When sales are made by the producer direct to the retailer, commission and storage, and other charges, are eliminated. Sales made to wholesale houses are usually about ten per cent less than those to retail merchants.

INDIANAPOLIS.—As a rule, the honey market is dull during December; but the demand is holding up remarkably well this season. Producers are not now offering honey freely; and while wholesale houses are well stocked, the indications are that honey will be scarce before the arrival of the new crop. Some fancy white comb is being offered by producers at 12½; No. 1 white at 12; white clover, extracted, in 5-gallon cans, at 7. Some amber honey is being offered, but the demand is so slight that the prices are irregular. Beeswax is steady at 28 cts. cash, or 30 in exchange for merchandise.

Dec. 15.

WALTER S. POWDER, Indianapolis.

KANSAS CITY.—We quote extracted honey as follows: Fancy white in 24-section no-drip flat cases, \$3.00 per case; No. 1, from \$2.75 to \$2.90; No. 2, \$2.50. Extracted No. 1 white, in 60-lb. cans, 8 cts. per lb.; amber, 7½. Our market is well supplied at present with both comb and extracted honey. While there is a fairly good movement of honey, there is enough to supply the demand for some time to come. Beeswax is in demand at 25 to 28.

Dec. 24.

Kansas City, Mo.

ZANESVILLE.—The fact that money is being spent in other channels now immediately before Christmas has made the demand for honey abnormally light. For fancy to No. 1 white comb the jobbing trade are offering 13 to 14 delivered, and 8 for the best grade of extracted. There is not much change in the wholesale market. For good clean beeswax I offer 29 cts. cash or 30 in exchange for bee-supplies.

Dec. 19.

Zanesville, O.

SAN FRANCISCO.—There is no stock of water-white honey, either comb or extracted, on this market, and the white grade is moving fairly well at prices formerly quoted. Prices are still maintained on the lower grades, but they are moving off very slowly. We quote white comb at 15; white extracted, 7 to 8; light amber, 6½ to 7; dark amber, 4½ to 5½; candied, 4½ to 5½.—*Pacific Rural Press*, Dec. 19.

CINCINNATI.—With the close of the year the demand for both comb and extracted honey is very quiet, for all buyers wish to rid themselves of their stock to begin anew when business opens up again. Our prospects for the future are bright, and we look forward to a marked increase over the past four or five months' business. Amber extracted honey is selling by the barrel at from 5½ to 6½, according to quality and quantity purchased. Extracted white-clover honey sells at 8. Fancy comb honey is moving freely at 14 to 14½. We can use quite a lot of that article; and if any one has some to dispose of, he will find us buyers. For good to choice yellow beeswax we are paying 27 to 28 delivered here.

Dec. 22.

THE FRED W. MUTH CO., Cincinnati, O.

NEW YORK.—The demand for comb honey is only fair, and that only for fancy and No. 1 white. Low grades are dragging, and the demand for these, even at low figures, is next to nothing. While we have no overstock of No. 1 and fancy white, we can not encourage shipments of mixed or off grades. If the demand for white honey will continue fairly good during the next four months we do not think that there will be any carried over so far as our market is concerned, unless some shipments should arrive from the West, where, as we understand, there are large quantities held back. Extracted honey is in fair demand with sufficient sufficient supply. We quote California white sage at 9 to 9½; light amber, 8 to 8½; amber, 7 to 7½. Southern and other grades, in barrels, 60 to 75 cts. per gallon, according to quality. Beeswax is quiet at 28 to 29.

New York, Dec. 21.

HILDRETH & SEGELKEN.

ST. LOUIS.—The honey trade during the last few months has been dragging, and the little that was sold changed hands at low rates. Stocks are not large, but somewhat in excess of the limited demand. We quote fancy white comb honey at 12 to 12½; choice amber, 11 to 12; dark amber, 9 to 10. Broken or leaking honey sells at considerably less. Choice amber honey, in barrels and half-barrels, sells at 5½ to 6; in five-gallon cans, 6 to 6½. Dark and inferior grades are entirely neglected, and would sell at considerably less. Beeswax sells at 29 cts. for choice pure; all impure and inferior, less.

St. Louis, Dec. 21.

R. HARTMANN PRODUCE CO.

BUFFALO.—The honey market is about as dull as I ever saw it. No one seems to want honey. There may be a little demand after New Year's day. We quote No. 1 fancy white-clover comb at 14 to 15; No. 2 ditto, 10 to 12; No. 1 buckwheat, 11 to 12; No. 2 ditto, 9 to 10; white extracted, 8 to 9; dark, 6½ to 7; white honey in jelly-tumblers, 85 to 90 cts. per dozen. Beeswax, 28 to 30.

Dec. 21.

W. C. TOWNSEND,
Buffalo, N. Y.

CHICAGO.—The past two weeks trade in comb honey has eased off considerably, but we look for a reaction after the first of the year, as a good many of the stores and jobbers are reducing their stocks as much as possible for the inventory period. The Chicago market is amply supplied with comb honey, but there seems to be a shortage of white-clover and basswood extracted. Demand for these is quite active at the present time. We quote extra fancy white comb honey at 14 to 14½; fancy and No. 1 white, 13 to 14; No. 2 white and light amber, 11 to 12½; other inferior grades at correspondingly low prices. White-clover and basswood extracted, in 60-lb. cans, two to the case, 7½ to 8; in barrels, ¾ ct. per lb. less. Bright pure beeswax, 30 to 32.

Chicago, Dec. 22.

S. T. FISH & CO.

LIVERPOOL.—The market for all descriptions of honey is very firm, and stocks are still small. Chilean, 4½ to 6½ cts.; Peruvian, 3½ to 4½; California, 8½ to 10½; Jamaican, 4 to 5; Haitian, 5 to 7. Beeswax—African, 26½ to 29; American, 30 to 33; West Indian, 29 to 32; Chilean, 30 to 36; Peruvian, 33; Jamaican, 34 to 35.

Dec. 16.

TAYLOR & CO.,
7 Tithebarn St.

ELKIN.—Comparatively little honey is on the market. It appears that this year's crop is about all exhausted. White section honey sells at 25; sourwood chunk honey, 16 to 17; red or dark honey, none offered at present. This town has about 1800 inhabitants, and I have sold 3500 lbs. this fall; and while I am entirely out, orders are coming for more sourwood honey. There was a fine crop of honey in this section this year. Beeswax is firm at 26.

Dec. 14.

G. F. JONES,
Elkin, N. C.

See next page for balance of Honey Market reports.

If your honey crop is short, and you need something fine to supply your customers, write to us, for we have it.

**FINEST Water-white Mountain-sage Honey (extracted).
BEST White-clover Honey (extracted).
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BISCUIT COMPANY**

Purchasing Department,

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CHICAGO, ILL.

Honey Market Reports continued from page 4.

TOLEDO.—The market on comb honey at this season of the year is rather quiet; and owing to the good demand that we have had for the last two or three months dealers seem to be well filled up, and do not wish to add to their stock until after the first of the year. We are quoting strictly fancy white-clover comb honey at 15 to 15½; No. 1, 14½ to 15. We have no No. 2 to offer, but it would bring, perhaps ½ ct. per lb. less. Extracted white-clover honey would bring 7½ to 8 in small lots. California light amber, 6½ to 7 in small lots. Good yellow beeswax is bringing 28 to 30 in trade. The above are our selling prices, and not what we pay.

THE GRIGGS & NICHOLS CO.,
Toledo, O.

Dec. 22.

NEW YORK.—The market is pretty well stocked with comb honey; but the demand for clover comb honey is very slow and unsatisfactory, presumably on account of the scarcity of money, which has not as yet adjusted itself since the financial trouble of last fall. Extracted honey has been in better demand up to about three weeks ago for manufacturing purposes, but is now slow, with stock fairly well cleaned up. Buckwheat, comb and extracted, is not as plentiful as clover, with demand fair and stock diminished. California is not very plentiful, particularly white. Considerable Southern honey is offered. We quote extracted clover at 7½ to 8; amber ditto, 6½ to 7; buckwheat, 6½ to 7; fancy white comb honey, 13 to 15; No. 1 ditto, 12 to 14; No. 2 ditto, 10 to 12; buckwheat, 9 to 12. Beeswax, 28 to 31.

CHAS. ISRAEL & BROTHERS,
New York.

Dec. 23.

SCHENECTADY.—Our market is now very quiet, as is usually the case during the holiday season. We have some call for extracted buckwheat in 60-lb. cans and 160-lb. kegs. There is no change in prices from last quotation.

CHAS. McCULLOCH,
Schenectady, N. Y.

Dec. 21.

ST. PAUL.—Receipts of honey are very light; demand moderate and prices steady. The prices below represent those obtained for shipment in small lots. Fancy white-clover and basswood, new, 13 to 14; buckwheat, 10 to 12½; extracted, in 60-lb. cans, 7 to 8.—*Board of Trade Bulletin*, Dec. 21.

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ALBANY.—We have to quote a nominal honey market now. Stocks are not large, but the demand is light and the general quality not fine. We quote extra white clean comb, 15; No. 1, 14; mixed, 11 to 13; buckwheat, extra, 12; medium, 10 to 11. The demand for extracted is better at present than for comb. We quote white clover at 8 to 8½; mixed, 7 to 7½; buckwheat, 7. Beeswax, 30 to 32—receipts light.

Dec. 25.

H. R. WRIGHT, Albany.

BOSTON.—White fancy comb honey, 15; No. 1 ditto, 14; No. 2, 11. White extracted, 9; light-amber, ditto, 8; amber, 7. Beeswax, 30.

BLAKE-LEE CO.,

Dec. 21.

4 Chatham Row, Boston, Mass.

NEW YORK.—Honey is slow sale at present. Fancy comb, 14 to 15; No. 1, 12 to 13, with little demand; buckwheat, 11 to 12; extracted, white, 8 to 8½; light amber, 7 to 8, plenty; buckwheat, 6 to 6½. Beeswax, 30.

I. J. STRINGHAM,

Dec. 23.

New York.

COLUMBUS.—The honey market is dull. We quote fancy white comb at 13; No. 1, 12; No. 2, 11; amber, 10½ to 11.

EVANS & TURNER,

Dec. 28.

Columbus, O.

LOS ANGELES.—Stocks of California honey are now exceedingly well cleaned up. The demand, however, is now very light. We quote to-day's market on extracted as follows: Alfalfa, light amber, 5½; sage, light amber, 6; sage, white, 7. Comb honey, only in small supply for local use.

HAMILTON & MENDERSON,
Los Angeles, Cal.

Dec. 24.

CINCINNATI.—The market on comb honey is very quiet. Some sales are being made at 14 for No. 1 white honey, but the demand is not brisk. White-clover extracted honey is selling at 8 cts. in cans; sage, 9; amber honey in barrels, 6. Beeswax is slow at 32.

C. H. W. WEBER,

Dec. 28.

Cincinnati, O.

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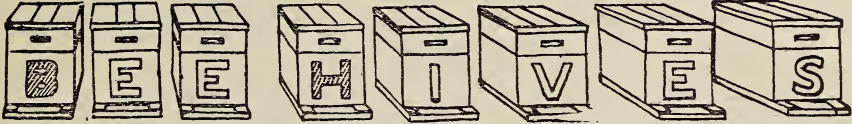
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A Book of Valuable Information for Bee Hunters.
Tells How to Line Bees to Trees, etc.

(The following is taken from the author's introduction to *Bee Hunting*.)



Many books on sports of various kinds have been written, but outside of an occasional article but little has been written on the subject of Bee Hunting. Therefore, I have tried in this volume—*Bee Hunting for Pleasure and Profit*—to give a work in compact form, the product of what I have learned along this line during the forty years in nature's school-room.

Brother, if in reading these pages you find something that will be of value to you, something that will inculcate a desire for manly pastime and make your life brighter, then my aim will have been reached.

The book contains 13 chapters as follows:

- I. Bee Hunting.
- II. Early Spring Hunting.
- III. Bee Watering—How to Find Them.
- IV. Hunting Bees from Sumac.
- V. Hunting Bees from Buckwheat.
- VI. Fall Hunting.
- VII. Improved Mode of Burning.
- VIII. Facts About Line of Flight.
- IX. Baits and Scents.
- X. Cutting the Tree and Transferring.
- XI. Customs and Ownership of Wild Bees.
- XII. Benefactors and Their Inventions.
- XIII. Bee-keeping for Profit.

This book contains 80 pages, paper cover.
Price, postpaid, only 25 cents.

With *GLEANINGS* one year, \$1.10.

THE A. I. ROOT COMPANY, Medina, O.

I WANT YOU

to get my new, handsome winter of 1908 Fashion Book,

HUNDREDS OF LATEST STYLES

with illustrated lessons on Cutting and Dress-making, **FREE**, and I will sell you all the patterns you want for five cts. each. They are the same patterns you have always paid 10c & 15c for at the stores, made by the same people, and correct in every detail.

I publish the **FARMER'S CALL**, a weekly paper for every member of the family. An especially interesting feature each week are the children's letters; and the Woman's Department is unusually strong and instructive. Among the special features for women folks is its fashions in which I show the 5c patterns. Let me help you to save money.

MY SPECIAL OFFER

Send me 25c and I will send you the **Farmer's Call** every week for one year (about 1000 pages) and will send my big **Fashion Book** to you free. I also agree to sell you any pattern you want thereafter for 5c. I can sell them for 5c, because I buy them by the thousand and don't make any profit. I don't want any profit. I want your subscription to the **FARMER'S CALL**. You will save many times the cost of my offer in a year. **WRITE TO-DAY.**

You can use this coupon—cut it out now and mail to me with 25c—1c and 2c stamps taken, but a quarter almost always goes safe:

JOHN M. STAHL—Enclosed 25c for Farmer's Call for one year, your book of patterns, postpaid, and privilege of buying patterns at 5c each.

Name.....

P. O.

State..... 3

Very Special Offer

Send me 50c and I will send you the **Farmer's Call** for one year, the **Illinois Farmer** for two years, the **Fashion Book** prepaid, with privilege of buying patterns at 5c each. Use above coupon, but enclose 50c and write **J. M. S.** in the corner. Cut out the coupon right now, fill out, and send to

JOHN M. STAHL, J. P. Sta., Chicago, Ill.
(prop. Farmer's Call for past 25 years.)



GLEANINGS IN BEE CULTURE

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ARE YOU A TRAPPER?

If so, the advertisement of Funston Brothers, of St. Louis, Mo., who are celebrated fur-dealers all over the American continent on account of the extensive business they do in raw furs. A goodly number of bee-keepers are interested in hunting and trapping, and it is with some pride that we point to the fact that the firm of Funston, one of the most reliable concerns of the kind in the world, should be the first to use our columns soliciting the bee-keeper's trade in furs. Judging by the market reports, the trade in furs seems to be in a flourishing condition. Skunks, one of the enemies of the bee-keeper, are selling at top-notch prices. Even the humble muskrat fur is selling at good prices, and the nimble coon is doing well also, probably on account of the fact that his fur is much used for automobile coats. The fur of the sly fox seems to be in very great demand, and there ought to be money in trapping him—if you understand just how to trap his wary lordship. That scourge of the West, the wolf, is in much demand now, but only for his hide or fur. Of course fine prices are paid for the pelts of the lynx, marten, and fisher; and our northern readers may be able to do some business at the attractive prices now being paid. Civet cats are in active demand, and so are mink. It looks to us from the nature of the market reports that the trapping fraternity are likely to do well this year provided they can secure a fair catch, which largely depends on the ability of the trapper. In any case it will pay our trap-pist readers to get in touch with Messrs. Funston. What may be a pest in your neighborhood can quite possibly be turned to good account—that is to say, a bank account.

SEEDS THAT ARE GUARANTEED.

At last we have a seedhouse that actually gives its customers a positive guarantee that their seeds are fresh and of good germinating power. Hitherto large sums have been lost because the seeds were old, or perhaps for other reasons the seed was poor, with the result that the labor of the planter was wasted. The amount that has been lost in this way is almost incalculable, and yet much of it could have been avoided by more care and common honesty on the part of seedsmen. This will be changed, however. The first seedhouse we know of to break away from the old plan is the well-known firm of A. A. Berry Seed Co., who execute a binding guarantee that their seeds are fresh and of high germinating power. Write to them for further details. Their advertisement appears on another page.

A VAST BUSINESS.

The Chicago House-Wrecking Co., which is now using a large space in our columns, is one of the largest concerns of the kind in existence, and therefore merits more than a passing mention. The house they illustrate on another page, at \$650 for all the materials, is certainly a triumph for the mail-order business. At first sight it seems odd that we can now order a complete house, together with all its furnishings, with a reasonable assurance that we shall get just what we order. Not many years ago such a transaction would have been deemed impossible; but there are many reasons for supposing that, in future, most of our houses, barns, etc., will be ordered in just this way. That is to say, the house will be shipped *in the flat*, and put up on arrival by a local carpenter or mason. By this means we get the help of skilled architects and artisans in a way that is impossible in small places. We also get a much greater choice of materials, because a large house can give us a wide variety to choose from, whereas a local concern can offer only a very limited line for our inspection. Whether it agrees with our ideas or not, it looks to us at present as if all the business of the future would be done on this plan. We are gradually working toward this system; and the Chicago House-Wrecking Co. can justly claim to be a prominent factor in bringing about this radical change in business life so far as relates to the house-building trade at least. The business they do is large and steadily increasing, showing that the public likes the system and appreciates its benefits.

A GENEROUS OFFER.

The special attention of our readers is called to the very liberal offer, on another page in this issue, of the Hawkins Publishing Co., who publish that excellent poultry paper, *Poultry Husbandry*. Arrangements have been made with three other excellent papers for the farm, whereby the four papers may be had for one year, together with "Chick Culture," a very valuable book on poultry-raising, by Dr. A. A. Brigham, all for \$1.00. Read the advertisement clear through, for the offer will certainly interest you; and when sending in your order, please mention this publication. This is one of the poultry papers which carries no objectionable advertising; in fact, it has come to our notice that it has refused several such accounts and we therefore especially commend it to the attention of our readers.

We wish our
customers and friends

A HAPPY NEW YEAR

In other words we wish you
ROOT'S GOODS.

Send us your list of goods and
let us quote you prices—
We can save you
money.

M. H. HUNT & SON
LANSING, MICH.

Bee Supplies

for the Southern
States.

WE are better prepared than ever before to take prompt care of all orders. We sell goods at factory prices and aim to keep our stocks well assorted. Write us for estimates on your list, or send the order right along and we will guarantee that you will be satisfied. We handle none but the best goods. Golden bees and queens a specialty. Send in your orders now and be sure of early delivery.

HOWKINS & RUSH

241 Bull St.

SAVANNAH, GA.

Field and Garden Seeds Bee and Poultry Supplies

The best quality bee-supplies. None better to be had. Now is the time to send in orders, and be ready for the rush season.

All kinds of Garden and Field Seeds. Choice sweet-clover seed always in stock. A large variety of best seeds for the South.

Bee-keepers and gardeners who also raise poultry will be interested in our large stock of poultry-supplies, the largest and most complete line in the South.

Catalogs of all of the above lines on request. Send now, and get your orders in early. .



Texas Seed and Floral Company
Dallas, Texas

HEADQUARTERS FOR BEE- SUPPLIES

Distributor of Root's goods exclusively at factory prices. . . . No charge for drayage. . . . Send your orders here, and save freight and annoying delays. Send us your list of goods and we will quote delivered price. Early-order discount for January, 3 per cent. A large stock always on hand.

C. H. W. WEBER
Cincinnati, Ohio

Office and Salesroom, 2146-48 Central Ave.
Warehouse, Freeman and Central

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PLANET JR.

Nearly every one knows something about the Planet Jr. cultivating tools. Either they have used them or have seen some one else use them, for they are used everywhere. The introduction of these handy tools ushered in a new era in general gardening, and they are fast displacing the old-fashioned hoe and rake, even in localities where the growers are conservative. The readers of this journal are as well acquainted with the merits of Planet Jr. inventions as we are, and consequently they need no assistance from us in the way of suggestions; but others not so situated can be strongly recommended to send for a catalog of these interesting machines at once. They are great labor-savers where labor-savers are very necessary indeed. If you admire beautiful tools, the neatness and ingenuity of these monuments of Yankee genius will strongly appeal to you. Many gardeners regard it as a sort of religious duty to scan carefully the catalog of the S. L. Allen Co., who make this line, looking for novelties or perhaps improvements on some tool they already possess; and it is safe for us to say that all up-to-date market-gardeners keep in touch with this firm.

WIRE FENCING.

We take this opportunity to call your attention to the full-page advertisement of the American Steel and Wire Fence Co., which appears in this issue. This company makes wire-fencing on a scale that may justly be termed gigantic, and are, consequently, able to do for customers what small concerns can not do; that is to say, they make fences to resist the heaviest attacks of the wildest buffalo or control the liveliest chickens on the farm. A would-be purchaser can find the fencing of this concern on sale almost anywhere in this country, and to a great extent in other countries, which may be taken to indicate the vast extent of their business. Good fences are a wonderful convenience on a farm, and labor-saving besides. These woven-wire fences are a vast improvement over the barbed-wire fences which are so common; moreover, they are very durable and neat-looking. If properly erected they will imprison any kind of stock, and last a long time with very little

repair work. In point of fact, woven-wire fences are very nearly perfect for the purpose for which they are constructed. Of course, there are inferior makes of woven-wire fencing, but that made by the American Steel and Wire Co. is of the very best grade, and yet is sold at a moderate price.

BURPEE.

Very few names are better known in the business world than that of Burpee & Co. It seems almost synonymous with certain kinds of seeds such as cantaloupes and sweet peas. In respect to valuable novelties introduced in recent years, the name of Burpee stands pre-eminent, and no firm or even government experiment station is more anxious to improve the quality and quantity of our garden produce than is the house of Burpee. As is their wont, they have sent their advertisement here for the season of 1909, knowing, probably, that their seeds are highly appreciated by the readers of GLEANINGS and their friends. Of course, they issue an excellent catalog that is well worth sending for—more especially so since the statements therein are reasonably correct and truthful—something which is not always true of seed catalogs.

PUMPS AND SPRAYERS.

One of the first concerns in this or any other country to manufacture sprayers for trees and crops was the Deming Co., of Salem, O. They have always maintained that lead, so that it now seems useless to praise the pumps and sprayers made by them. Every one who does any spraying knows of the superior character of all their implements, and their fame is world-wide. For years they have maintained a space in these columns, and, so far as known to us, none of our readers have ever complained of the treatment accorded them by the Deming Co. On the contrary, there are many of our subscribers who praise the wares of this company very highly. We feel sure, therefore that any one desirous of buying a spraying machine or pump can not do better than correspond at once with the Deming Co., with a view to making a purchase.

500 REPORTS SHOW GLEANINGS IN BEE CULTURE

Valuable FOR GENERAL ADVERTISERS.

We have long known that GLEANINGS IN BEE CULTURE is an excellent medium for all classes of general advertising. We are now prepared to prove this statement by actual reports from many subscribers selected at random from the Atlantic to the Pacific.

THESE REPORTS SHOW—

The majority of our readers subscribe to other papers.

GLEANINGS, however, is the favorite family paper.

Advertising columns are read as carefully as the rest of the paper.

Ninety-five per cent of our subscribers use breakfast foods and canned goods.

The average bee-keeper's family consists of four persons.

Fifty per cent of our readers are farmers.

Fifty per cent are divided among every other calling as follows:

Miners,
Clerks,
Masons,
Nurses,
Millers,
Foremen,
Bankers,
Stockmen,
Teachers,
Printers,
Salesmen,
Florists,
Painters,
Dailymen,

Dentists,
Laborers,
Gardeners,
Merchants,
Policemen,
Teamsters,
Engineers,
Druggists,
Clergymen,
Surveyors,
Physicians,
Carpenters,
Machinists,
Die-makers,

Blacksmiths,
Postmasters,
Contractors,
Housekeepers,
Lumber Manufacturers,
Fruit-growers,
Station Agents,
Harness-makers,
Manufacturers,
Photographers,
Letter-carriers,
Poultry-raisers,
Te'egraph Operators,
Real-estate Dealers.

We doubt if any magazine can make a better showing than the above; and surely this list will prove large buyers of general merchandise. The farmers who keep bees are of the better class—the thrifty and well-to-do who have plenty of money to spend. Bee-keeping is often merely a side line, and the profits are large for the investment.

It has been argued that GLEANINGS is not a good medium for general publicity advertising. The fact is that our subscribers are about equally divided between those who buy by mail and those who patronize local dealers, and of the latter class fully ninety per cent ask for advertised goods.

GOODS WANTED

To our inquiry, "Are you about to purchase farm implements or home improvements?" our subscribers mention the following:

Paint,
Wagons,
Lumber,
Drills,
Stoves,
Fencing,
Harness,
Harrows,
Furnaces,

Furniture,
Carriages,
Windmills,
Groceries,
Hay-tools,
Incubators,
Drain Tile,
Motor Cars,
Force Pumps,

Cultivators,
Fertilizers,
Garden-tools,
Land-rollers,
Player Pianos,
Dairy Supplies,
Lighting Plant,
Farm Machinery,
Silo Machinery,

Sewing-machines,
Nursery Supplies,
Cement Machinery,
Manure-spreaders,
Gasoline-engines,
Irrigating Outfit,
Plumbing Fixtures.

This list is not complete by any means, but gives a fair idea of the diversity of our subscribers' wants. The reports from which we take this information are on file in our office, and open for inspection by any one interested.

**ADVERTISING DEPT., GLEANINGS IN BEE CULTURE,
MEDINA, OHIO.**

"The Little Magazine With a Big Field."

LOCATION, STOCK, PRICE

We are more centrally located, have the advantage of being able to ship direct over **THIRTY** different **RAILROADS** and **STEAMBOATS**, and as we always carry several carloads of

ROOT'S SUPERIOR BEE-SUPPLIES

in stock, we are, therefore, in position to furnish the best bee-goods at the very lowest prices. *This month* we can quote a **SPECIAL CASH PRICE**, if you will send us a list of your requirements, either for immediate or future delivery.

BEESWAX

We will buy all you can ship us, at market prices for cash or in trade. Write us to-day

If interested in poultry, write for catalog No. 8.

BLANKE & HAUK SUPPLY CO.
1009-11-13 Lucas Ave. ST. LOUIS, MO.

BEE-SUPPLIES FOR SEASON OF 1909

Complete stock on hand, as our plant has been running steadily so as to take care of the demand for **bee-supplies** the early part of the coming season. We are practically overstocked at this time and advise those in need of **bee-supplies** to order now (shipments may be delayed until you want the goods) before the contemplated advance in prices all along the line. Lumber is dearer and labor has never been so high, but we agree to protect our patrons at present prices upon receipt of their orders at this time.

Being manufacturers we buy lumber to advantage, have lowest freight rates, and sell on manufacturers' profit basis. Let us quote you prices. Prompt shipment guaranteed.

MINNESOTA BEE SUPPLY CO., 123 Nicollet Island, Minneapolis, Minn.

This Coupon Worth 35 cents

(New Subscribers Only)

Name

Postoffice

State

If not now a subscriber and you want one of the most helpful aids to successful bee-culture—a paper that tells how to make your bees pay—you should subscribe for the

AMERICAN BEE JOURNAL

A 32-page illustrated 75-cent monthly. It tells all about the best way to manage bees to produce the most honey; with market quotations, etc. A dozen different departments—one for women bee-keepers. Best writers.

It Will Increase Your Honey-Money

If you will send us your name and address with 40 cents (stamps or coin) together with this coupon, we will send you a trial trip of our Journal for 12 months. Order now and let us begin with this month's fine number. Address,

American Bee Journal, 118 West Jackson, Chicago, Illinois

HILTON'S Strain of Bees and What They Did

Dear Friend Hilton:—The two three-frame nuclei I received of you May 21 were received in fine condition, and the red-clover queens proved themselves worthy of the name. I never saw finer or gentler bees. They were transferred to ten-frame hives and full sheets of foundation. I now have four strong colonies, with plenty of stores for winter, and have taken 195 lbs. of fine extracted honey, mostly clover. I want two more nuclei for next spring delivery, and my neighbor wants another. You may use this letter or any part of it as you choose.

Gratefully yours,

Rhineland, Wis., Sept. 14, 1908. G. C. CHASE.

In addition to the above I have sold friend Chase about \$200 worth of ROOT GOODS, which deserve some credit for the above results—the best of every thing is none too good. ROOT'S GOODS and GLEANINGS helped. If you are not taking GLEANINGS, WHY NOT? For an order of \$10.00 before Jan. 1 I will give GLEANINGS one year; \$20.00, two years; \$30.00, three years; or you may have GLEANINGS from now to the end of 1909 for \$1.00; two years for \$1.50; three years for \$2.00. SEND FOR MY 40-PAGE CATALOG. CASH FOR BEESWAX, or will exchange goods for it.

GEO. E. HILTON
FREMONT, MICH.

The Guide To Nature

AN ILLUSTRATED MONTHLY
MAGAZINE FOR ADULTS

Devoted to commonplace nature with
uncommon interest.

STAMFORD, CONN.

Edward F. Bigelow, Managing Ed.

For people who see and think.

For people who believe that this is
a beautiful and interesting world.

For all students and lovers of nature.

SUBSCRIPTION, \$1.50 PER YEAR.
SINGLE COPIES, 15c. NO FREE COPIES.

Every number is worth more than the
price asked, costs more—there-
fore we can not distribute free.

IMPROVED DAN-ZE GUARANTEED 'ALL RIGHT'

GOLD MEDALS

St. Louis . . . 1904
Jamestown . . 1907



IS THE BEST,
STRONGEST,
COOLEST,
CLEANEST,
CHEAPEST,
and LARGEST
SMOKER SOLD
FOR A DOLLAR.

With the side grate combines hot and cold blast deflecting part of the air back and over the fuel; COOLS as it expels the smoke, while part fans the side and bottom till all consumed. The Double-walled case, $3\frac{1}{2}$ inches in diameter, has asbestos-lined sides and bottom, keeping all cool.

The projecting hinge-strap protects the smoke exit, and eases easy opening the one-piece cap.

THE VALVELESS metal-bound bellows combines simplicity, utility, and durability.

Five years increasing sales justify us in extending our GUARANTEE of PERSONAL RESPONSIBILITY for full satisfaction or REFUND of price on all our smokers sold by US OR OTHERS.

Price, \$1.00; two, \$1.60; mail 25c each extra.

DAN-ZE HIVES with metal Propolis-proof Guards.

ROOT'S Goods at Root's prices, early-order discounts.

Write us for any thing you need. Free circulars for yourself and your friends.

If you want a home in this genial Sunny South Land, we will help you find it.

F. Danzenbaker, Norfolk, Va., or Medina, Ohio

We wish to thank all those subscribers who so kindly responded to our recent request for certain information. Besides being of great help to us in our advertising work, these replies have been a source of a great deal of gratification to us, showing as they do the feeling of good fellowship which exists toward GLEANINGS and its undertakings. We hope to continue long to merit such approval. See tabulated report on page 11.

Learn Music By Mail



This
**FREE
BOOK**
Tells How

By our wonderful Simplex System—one of the greatest inventions of the age—anyone of ordinary education can learn by mail to play piano or organ

IN 20 EASY LESSONS

You need not know the first principles of music. By this wonderful system you can in 20 lessons become a capable musician. The work is easy and fascinating—you will be wonderfully surprised at the progress you will make. In a few weeks, by this method, you can play popular, sacred or classical music. Considered better than a 3-year conservatory course as a time and money-saver—teaches the practical and usable in music and does away with all unnecessary theory. You should have this course of lessons. The cost is a mere trifle compared to the real worth. Send for our Free Book today. State whether you have piano or organ.

SIMPLEX SCHOOL OF MUSIC
Conservatory 370
Kansas City, Missouri

New Goods for 1909



Good News for the Southwestern Bee-keeper

The strenuous season of 1908 left our stock of bee-supplies in a depleted condition. We have now replenished our stock with large shipments of the finest bee-goods ever seen in the Southwest. These are

Root's Goods Exclusively

We have not dared to experiment with any other line of bee-supplies; and from the looks of our new goods we shall never need to. They are "as fine as silk." We should be glad if our customers would come and see them. You will be pleased with the best ever. Come along and enjoy a day in San Antonio, picking out what you want while your wife goes shopping. Seeing is believing, and we would far rather hear you puff our goods than do it ourselves. But we honestly believe we have not only the largest line of bee-supplies in Texas, but also, by far, the best in quality.

Shipping-cases for Comb Honey.

500	12	4	3 and 2 in. glass.	350	6¼	3	2 and 3 in. glass.
350	10	4	2-in. "	550	7½	4	3-in. "
200	12	2	2-in. "	250	7½	3	3-in. "
200	16	2	2-in. "	300	9¼	4	3-in. "
250	8	3	2-in. "	50	9¼	3	3-in. "

If you can use any of the cases in the foregoing list we will quote very attractive prices to clean them up. Please write at once if you want any.

Early-order discount—3 per cent for January; 2 per cent for February.

Catalogs Free on Demand

With our catalog in hand you can pick out the various items required, at your leisure. When you make out an order, send it to us and we will do the rest. It will be regarded as a favor from you, and be appreciated accordingly.

Toepperwein & Mayfield
1322 South Flores St.
San Antonio, Texas

A GOOD INVESTMENT.

You can make no better investment than to take the discounts I am offering on bee-keepers' supplies. These discounts will diminish as the season advances; so the earlier you send in your order the better the investment. You can not afford to miss this special offer. Send in the list of the goods you want and get my net prices by letter.

My stock of Root goods is the largest and most complete carried in the West, and with carloads continually being added I am in position to meet every want of the bee-keeper, with promptness and satisfaction.

Write to-day for new prices and catalog.

JOS. NYSEWANDER,
565-7 W. 7th St. Des Moines, Iowa

SOUTHERN CUSTOMERS !

We have a full line of

LEWIS BEEWARE

and DADANT'S COMB FOUNDATION
AT FACTORY PRICES.

Your orders will have prompt attention.

OTTO SCHWILL & CO., Seedsmen, Memphis, Tenn.
Our 1909 catalog of GOOD SEEDS mailed free.

Mr. Bee-Man:

I have a full line of Hives, Supers, Sections, Foundation—in fact, every thing you need in the apiary. If you do not have a catalog, send for one to-day.

182 H. H. JEPSON Boston,
Friend St. Phone Haymarket 1489-1 Mass.

You can save time, worry, and money by ordering your supplies for next season now.

NEW STOCK

We have a stock of goods now on hand for next season, and would like very much to receive your orders for supplies. We take pleasure in shipping orders and try our best to please every one.

Each order has our very best attention. Can you not make out an order and send to us? Over \$15,000 worth of supplies are now here awaiting your needs.

At this time of the year we would be especially pleased to hear from you. During January we allow three per cent discount.

THE A. I. ROOT CO.
SYRACUSE NEW YORK

HEADQUARTERS FOR

ROOT'S BEE-KEEPERS' SUPPLIES

at Root's prices.—No drayage charges.

We offer for a short time, 1908 model

Omega CREAM SEPARATORS

for spot cash, freight prepaid to your station, as follows:

No. 1—capacity 325 lbs., \$50. No. 3—capacity 500 lbs., \$60.
No. 2—capacity 400 lbs., \$55. No. 4—capacity 700 lbs., \$70.

RAWLINGS IMPLEMENT CO.,
9-11 W. Pratt St. Baltimore, Md.

ESTABLISHED 1884

ARE YOU NEEDING SUPPLIES ?

Do not fail to write us for catalog and terms. January discounts, 3½ per cent; February 2 per cent, besides some low prices on odd stock not much called for, but may just suit your wants.

We keep in stock Root Co.'s perfect goods, "the standard." We equalize freight rates with St. Louis and Kansas City points on all shipments of 100 lbs. and over. Send us your inquiries early.

JOHN NEBEL & SON SUPPLY COMPANY
MONTGOMERY COUNTY HIGH HILL, MO.

**"If goods are wanted quick, send to Pouder."
Established 1889**

"GET BUSY"

By the Bee Crank

Said one little chick with a funny little squirm,
"I wish I could find a nice fat worm."
Said another little chick, with a queer little shrug,
"I wish I could find a nice fat bug."
Said a third little chick, with a strange little squeal,
"I wish I could find some nice yellow meal."
"Look here," said the mother, from the green garden patch,
"If you want any breakfast, you must get up and scratch."

I am doing a little scratching myself just now; and as an inducement to you to do the same I offer a discount of three per cent on all cash orders received during January.

My Twentieth Anniversary.—It is just twenty years since I began the bee-supply business in Indianapolis. Through the patronage of the bee-men all over the United States and in some foreign countries—a patronage which I appreciate and am trying every day to merit more fully—my business has increased to such proportions that it has outgrown my present



quarters. I am erecting a handsome new building which I expect to occupy by the first week in January. This building will give me still better facilities for handling the business of my patrons. It is located at 859 Massachusetts Avenue, where I shall be glad to greet any friends who can pay me a visit when passing through the capitol city of the great Hoosier State.

No Interference with Business.—Send in your orders as heretofore. There will be no delay through the move into the new building. I am stocking up with a new and fresh line of Root's goods which will be sold at Root's prices, less the discount mentioned above.

Send Me Your Beeswax.
Highest market price, cash or trade.
Illustrated catalog mailed free.

Walter S. Pouder,
513-515 Massachusetts Avenue, Indianapolis, Ind.

GLEANINGS IN BEE CULTURE

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NO. 1

EDITORIAL

By E. R. Root.

THOSE who live in the Southern States, or where the bees can fly off and on during winter, will need to look out for starvation.

1908 DEVELOPMENTS IN APICULTURE.

THE year 1908 may be said to have proven beyond any doubt the value of the gasoline motor for driving honey-extractors. Many power outfits were sold last year. The year also proved that cappings can be melted as fast as they fall from the honey-knife, without injuring either the flavor of the honey or the color or quality of the wax. These two improvements reduce the cost of producing extracted honey not a little.

THE RATIO OF COST IN THE PRODUCTION OF COMB AND EXTRACTED HONEY.

THE reader's attention is drawn to a very interesting article by Mr. R. C. Aikin, in this issue, on the relative cost of the production of comb and extracted honey. Other practical men have before claimed that bees secrete wax at times involuntarily; that the ratio of cost between comb and extracted honey is not so great as was formerly stated. Our columns are open for this very interesting matter. If comb honey can be produced at approximately the cost of extracted, there will probably be more of it sold.

AFTER DR. WILEY'S SCALP.

It looks now as if Dr. Harvey W. Wiley, the consistent and faithful champion of pure food, might get out of favor with the powers that be. Dr. Wiley's position—at least so some of the best pure-food men in the United States tell us—is right, and certain whisky-dealers and large manufacturers are after Wiley's scalp because he is making them toe the mark. The President and Secretary Wilson should not, and we hope will not, allow the greed of corporations to degrade such a man. It will be a sorry day for pure food if Dr. Wiley is ousted, or his situation made so unbearable that he will have to resign. The administration had better by far be too strict in its interpretation of what are poisonous preservatives than to be too slack.

MOVING BEES IN COLD WEATHER.

WE are getting frequent inquiries as to whether bees can be shipped in a box car with household goods in the winter. It all depends. If it is proposed to move the bees from a cold to a warm climate, we think no serious results will follow—

possibly not if shipped from one cold locality to another. But it will be our opinion that the general stir-up in transit will cause the bees to expand their cluster, consume their stores heavily, resulting in dysentery. If the bees can not have a cleansing flight at the end of the journey the result might be disastrous.

During cold weather, probably entrance-screens would afford sufficient ventilation. But if the bees are to arrive in a warm climate, some more adequate provision for air should be provided. In that case, entrance and top screens should be furnished, the former covered with the regular hive-lids when passing through the cold part of the journey.

OUTDOOR OR CELLAR WINTERING.

THE question is continually coming up, "Shall we winter indoors or out?" In latitude 40 or 41, outdoor wintering can usually be practiced successfully, providing a double-walled hive or winter case be used. As a rule, we may say that the average beginner will succeed far better by the outdoor plan, latitude 41. Where the winters are very cold, the mercury playing around 10 above zero for weeks at a time we would advise cellar wintering as being more economical of stores, and more likely to bring the bees through in better condition in spring. Cellars should be dark and dry; and if the temperature goes above 45 at intervals, it should be ventilated. The more the variation of temperature, and the higher it goes, the more ventilation should be provided.

FOREST-FIRE DESTRUCTION, AND WHAT IT MEANS TO THE HONEY BUSINESS.

LAST fall, forest fires wrought fearful havoc in Northern Michigan, Northern Wisconsin, and Minnesota. Millions of dollars' worth of standing timber was destroyed, and much other property besides. To bee-keepers the principal loss has been the honey-bearing flora of the devastated area. A vast acreage of raspberry vines was swept away, on which many bee-keepers had obtained a livelihood from the honey alone. This will not be renewed for two or three years. The fires came too late in the year to allow the famous willowherb or fireweed to grow in time to produce a crop of nectar for 1909. It will probably cover the whole area in 1910, however, and, to some extent, save the situation. Some bee-keepers, however, lost their apiaries as well as the flora.

It is galling to know that these tremendously destructive fires can be largely prevented with a little more care on the part of the lumber-cutters.

The two illustrations which we present to our readers in this issue will serve to show better than words can describe the terrors of a forest fire.

STRAY STRAWS

DR. C. C. MILLER

D. C. LEACH asks about catalpa as a honey-tree. I never heard of any one getting catalpa honey. I doubt if it is of any value.

FINANCIAL STATEMENT of Ontario B. K. A. (*Canadian Bee Journal*, 454) shows a cash grant from the government of \$450. Good for the Kanucks.

O. A. KEENE wants to know what that honey reported, page 1303, was gathered from. Mostly white clover. I can hardly tell what the other was from. Perhaps a little heartsease, a little red clover, and fall flowers.

J. D. ARCHBOLD testified, December 7, that the Standard Oil Co. in 1907 had produced as one of the by-products of petroleum 204,992,478 lbs. of wax. If bees could use that sort of "wax" there would be a drop in the price of foundation.

OLIVER FOSTER tells in *Bee-keepers' Review*, p. 336, about wintering bees not in but over a pit. For ten colonies a pit 10 feet deep, 3 feet in diameter at the bottom, and 5×7 feet square at the top. A skeleton platform supports the hives, and a cheap building covers all.

LOUIS SCHOLL, I am beginning to weaken a little as to moving bees to give them new life. A writer in *Review* is very sanguine that he increases his honey crop by thoroughly shaking his bees. If enough of you agree about it I may conclude that I don't know all about bees.

THE BEES are unhampered, says Dr. Bigelow, in a glass hive which allows them to build as shown, p. 1495. I wonder now if the bees would feel any more hampered by Hoffman frames *around* their combs than by those sticks *within* their combs.

DR. BIGELOW, you are quite right that it is not true that all the bees of the hive work at one time upon one kind of flower, page 1498. There are also exceptions to the rule "that the honey-bee gathers only one kind for each load." At any rate, I've seen a bee flying back and forth from one kind of flower, to another on the same trip.

CANDY-FACTORIES of the United States turned out 667,000,000 lbs. of candy in a year, or about 8½ lbs. per capita. Suppose we could get people to see that it would be better to have that much honey eaten. Then in a town of 2000, with another 1000 of surrounding population, there would be consumed 25,000 lbs. of honey. That would help the honey market, wouldn't it?

"THE EXTRA HONEY is money on big interest," page 1505. Right you are, friend Mendleson. The common question seems to be, "How little honey can I have in my hives in the fall so as not to have them starve?" It ought to be, "How much honey can be crammed into the hive in the fall without crowding the queen for room the following spring?"

J. E. CRANE, your philosophy about travel-stain, p. 1506, seems sound. Neither is it only a fancy "that with thicker and wider top-bars whiter surplus could be produced." I count no little on the effect of my top-bars 1½×%. One

thing you didn't tell us: Doesn't your honey-board make more even work in the sections, instead of having the central sections finished so long before the outer ones?

BY WAY of emphasizing what Bro. Doolittle says, p. 1492, I may say that I would rather put bees in cellar three weeks too early than one week too late. One of the most uncomfortable feelings a bee-keeper can have is to feel that his bees ought to have another flight before going into the cellar, and with no certainty that a day warm enough will come before spring.

I WISH our billion-dollar Congress, in deciding as to its appropriations of millions here and there, would take it into its head to add a bit to the pittance allowed for apicultural investigation. With a man possessing such splendid ability as Dr. E. F. Phillips at the head of affairs, I am sure that a larger sum could be used for the benefit of bee-keepers in particular and the nation in general.

IN WINTER, especially early winter, there is probably not as much danger from light in beecellars as generally supposed. If it doesn't lower the temperature too much, and you can't otherwise get in a big lot of pure air, don't be afraid to open up doors or windows, even if a little light does get in. Bees stand full light outdoors, and why shouldn't they in cellar if conditions are right?

J. E. CRANE, replying to your query, p. 1491, I think this territory is pretty well occupied with bees; but if *you* think of changing location I might consent to be crowded a little. Seriously, I have never counted this a first-class location for bees. With clover as the main dependence, when that fails the bottom is apt to drop out, and I have always thought that, if I were locating anew, it would not be at Marengo. Only one previous season came up to 1908. We do a lot of hard work fighting swarming, and that helps to bring up the yield *per colony*.

A. A. E. WILBUR asks whether it would be a good plan to have top and bottom bars grooved, and then use foundation splints long enough to be received into these grooves so as to make sure that the foundation shall not swing to one side at the bottom. It would be exceedingly troublesome to put in such splints. At least one end of the splint should be free to be put in with any degree of rapidity. If the splint were held in place at the bottom, that would keep the foundation from swinging out of true, even if the foundation were fastened in no other way. But that wouldn't be so well as to have foundation fastened at the bottom by a divided bottom-bar or by waxing; for if nothing but splints held the foundation in place the bees would be sure to have a passage between the foundation and the bottom-bar. I never yet had a splint held by top or bottom-bar, and never did a foundation swing out of true. But the foundation is fastened at top and bottom independently of the splints.

P. S.—Looking again at p. 755, GLEANINGS, 1908, I'm not so sure that B. F. Averill's plan of putting the ends of splints into grooves in top and bottom bars may not be as easy as or easier than mine. But it still leaves the necessity for providing against the bees gnawing a passage between foundation and bottom-bars.

CONVERSATIONS WITH DOOLITTLE

DIFFERENCES IN COLONIES.

"Mr. Doolittle, I believe I have the poorest strain of bees in the world, and I want you to tell me how to get rid of them and to get some that are first class. Can you do this?"

"Certainly. Kill those you have and purchase such as you would like."

"But that is not just the answer I wanted. I know that such a course would be all right; but is there no way of changing from the poor strain to one which is first class without killing those I now have?"

"Yes. But why do you say you have the poorest strain of bees in the world? Have you tried all the different strains which now exist? Have you tried all that exist in the United States, even?"

"No, I have tried none but those I now have, which came from a colony I purchased at an auction three years ago. Perhaps I was rash in my expression; but the larger part of my colonies do very little, while one, especially, has given me good returns the past two years. Now, if I could only have all my colonies equal to this good one I should feel quite proud."

"But the good one must have come from the original colony you purchased at the auction, and this shows that there is a marked difference in bees as to their working qualities. But it seems to me that your trouble is a case of selection rather than the adoption of an entirely different strain of bees."

"But why should this colony show such a marked difference from the other four? I have only five colonies in all, and this one gave me a greater surplus than the other four combined."

"The difference in the industry of certain colonies of bees has often been a surprise to their owners; but during a careful investigation for years, certain facts came to light which have enabled the careful and practical apiarist to overcome this matter to a great extent."

"Now you are getting at just what I want to know. How can this difference be overcome?"

"One of many great things having a bearing on this matter is breeding. The importance of breeding from our very best colonies is great, and is becoming better understood as the years go by; and the bee-keepers of America stand in the foremost ranks of the world on this particular question."

"Yes; but how is it done? Take my case with one good colony and the four poor ones for an illustration."

"Next year you should rear all your queens from the one which heads that best colony, and, as opportunity offers, have every colony you possess headed by queens reared from her."

"But do you think this colony as good as there is in the world?"

"It should not be, if your first talk about your bees had even a grain of truth in it. The one colony in two years' time, with no attention paid to breeding matters, could not be as good as some colonies headed by queens from those who have spent five, ten, fifteen, and twenty years in bringing their best colonies up and up till they stand

at the very head of the list in the United States, or as nearly up to perfection as seems possible at the present time. There are a score or two of breeders in the United States to-day, who, in all probability, have bees as much ahead of those you have as yours are ahead of those found in their native haunts, where the uplifting touch of man has had nothing to do with them."

"Then why do I not kill all of mine off, as you at first suggested, and start anew?"

"Because it would be an unnecessary waste. Buy a queen, or a colony of bees, from some one of the breeders you have confidence in, and from such a purchased queen rear queens next season until you have one to head each of the colonies you may have in the fall of 1909. Or, perhaps, it might extend your vision and prove a benefit to you to keep the queen in your best colony, rearing one or two queens from her as well, and see how they will compare with those reared from your purchased queen."

"I begin to see now, and I thank you very much. But you spoke of certain facts which had to do with this matter as though breeding had not the whole to do with it. What are some of the others?"

"A beginner, like yourself, is often impatient for increase, and much increase means little honey, except, perhaps, from some first or prime swarm, or from some colony which is made just right, and at the right time in the season. All of the others are crippled on account of a lack of bees, or a lack of the proper number of bees in just the right time to take advantage of the flow of nectar which gives a surplus in your locality. In such a case, the beginner, with the best bees in the world (or even a man who has kept bees for years, but paid no attention to these things), would find himself in almost the same condition you have been describing to me about your two years' experience."

"I begin to understand; for the colony which has done so well for me was a prime or first swarm, as I call them, a year ago last summer, and this summer it did not swarm at all."

"Then in wet seasons bees generally get just enough nectar to stimulate breeding, which gives large numbers of bees, with hives crowded with brood and very little if any honey in the sections, except, perhaps, with some colony which comes up to the harvest in just the right condition so it does not incline to swarm, when, with only two or three days of a good nectar-flow, such a colony or such colonies will give a surplus, while those that incline to swarm will give none. Results in such cases devolve more largely on the management of the apiarist than upon the strain or quality of the bees. I admit that there are poor bees, but I know that quite a few of our most practical apiculturists of the present time believe that there are lazy bees, or those which have been bred so closely for color or some other desired point that their usefulness is very largely crippled. However, we can show that the fault is not altogether with the bees, when fifty to five hundred colonies accomplish little or nothing during any season, for close study will tell us that the season is a poor one; that our locality is overstocked, or that we as apiarists are not bringing every colony to the point where it is ready to take advantage of one or more flows of nectar when they come."

NOTES FROM CANADA

By R. F. HOLTERMANN.

CLOVER FOR 1909.

Before the editorial appeared, page 1365, I made a good many inquiries as to the condition of clover. I expected to find it much damaged. Alsike clover over a very large area in Ontario and in this vicinity is not damaged; but there appears to be some doubt about white clover. The hazy and smoky condition of the atmosphere preventing strong rays from the sun, and the heavy dews at night, no doubt were advantageous.

ALSIKE CLOVER.

In Stray Staws for Nov. 15 Dr. Miller gives his experience with alsike clover. In Ontario, alsike clover rarely has a second crop. With abundance of rain, alsike sown in the spring sometimes comes into bloom the same season; but the bees rarely do much on it. Conditions which give vigor to a plant tend to abundant honey production, and these conditions do not appear to prevail at that time. This is the only solution I can offer.

ONTARIO'S APICULTURAL STATION.

Ontario is at last to have a proper apicultural station, which is to be established at Jordon, a place on the shores of Lake Ontario, between Hamilton and Niagara Falls. There is already situated there a fruit experiment station, and it is upon a farm donated by S. D. Rittenhouse, now a Chicago multi-millionaire whose boyhood home was at Jordon. Mr. Rittenhouse has also given to the neighborhood a beautiful school, hall, and library, besides making other public improvements in the neighborhood.

The object of the apicultural station is to conduct experiments in the fertilization of blossoms by bees, to carry on apicultural investigations, and to provide a place where those of either sex can take a course of study in apiculture, and learn the practical management of bees. In Ontario it will be headquarters, under the government, for bee-keeping. The one in charge of the station will lecture to the classes at the Ontario Agricultural College, and possibly before the MacDonald Hall students who desire to learn bee-keeping.

The government realizes that Ontario is well adapted to the production of honey, and that the industry deserves encouragement on account of the honey and because of the benefit bees are to various lines of agriculture in the vicinity of the apiary. It is therefore the expressed desire to foster the bee-keeping industry in every reasonable manner; and from what I know the undertaking is to be carried out in a manner to reflect credit upon the enterprise and intelligence of the banner province of the Dominion.

When this station and the one contemplated at the MacDonald College, St. Anne de Bellevue, Quebec, get in full working order, let the United States look out. A friendly spirit of rivalry between the two countries in the direction of doing good work should result in much good to the bee-keeping ranks.

The department desires to secure the services of a young man who has a scientific training to enable him to deal with the various problems which may arise from time to time in such work, and who has sufficient practical experience to enable him not only to manage bees successfully but to conduct apicultural experiments. It is not easy to secure such a combination, but it is to be hoped that the good work decided upon will not lag for want of a suitable man. Bee-keepers who will look after the business can certainly congratulate themselves on the future outlook of the industry in Ontario.

FOUL BROOD.

The fruit-growers, on account of the San Jose scale and other diseases, are reasoning something like this: For the specialist who will properly combat disease the outlook is better than ever, because he can keep under disease, and the one who has in the past grown fruit without paying much attention to its culture will be unable to do so on account of the prevalence of disease which, unless checked, will lead to the extermination of orchards. Convention after convention in Canada and in the United States would almost lead one to wonder if the same conclusions will be applicable to bee-keeping. Will it be only those constantly on the alert who will succeed in keeping their bees free from disease? I for one believe we can stamp out disease; but it must be done by means of thorough inspection and the hearty co-operation of bee-keepers who have been aroused to this co-operation by having pointed out to them the danger of neglect and inaction, and the certainty of a better condition by aiding the inspectors to know that they have bees, and helping them by letter and word of mouth to locate every colony in the district.

At the recent convention of the Ontario Beekeepers' Association the various inspectors reported. East of Northumberland Co. several cases were found. Almost all, if not all, the inspectors stated that they had found more disease than they had expected. One inspector had found 41 per cent of the apiaries he visited this year diseased. Another inspector, J. L. Byers, had found European foul brood in his district. The tract of country affected was something like twelve miles square. It had proved to be very virulent.

No colonies should be left uninspected. At present there are many who keep bees who rarely examine the brood-chambers. Some colonies, owing to crooked combs, can not well be examined. It was pointed out that colonies so kept rarely paid the owner; and, as the vice-president said, they are often a menace to other bee-keepers. There was a desire manifested at the convention to help such bee-keepers to better-paying methods—and to help them, with the co-operation of the Department of Agriculture, to keep bees in a paying way. There was a feeling that it was to the interest of almost every one to have the carelessly kept bees out of the way.

The writer is compiling these notes on a trip to Amherst, Nova Scotia, to judge honey and give an address on bee-keeping at the Maritime Breeders' Association exhibition of stock, fruit, and honey.

BEE-KEEPING AMONG THE ROCKIES.

By WESLEY FOSTER.

Every one just now is preparing for a merry Christmas and a new year of happiness. What we prepare for we get, especially if we prepare it for another's benefit, and so millions of us will find this holiday season the richest of the year. The only trouble is we think of the new year as being only one day instead of 365. Let's plan for a happy new year clear up to December 31, 1909, and by that time we shall have acquired the habit of happiness and helpfulness which will qualify us for A. I. Root's Century Club.

THE STATE CONVENTION.

The convention of the State Bee-keepers' Association provided a rich harvest for the many who attended, and the friendship of the craft was once more in evidence. I shall have a little to say of some of the discussions in later issues as well as in this paper.

WINTERING CONDITIONS.

Northern Colorado apiaries are going to record considerable loss this winter, caused by the poor quality of the stores in the hives. The prolonged cold weather has also made it hard for the bees to hold up.

The snowfall in the mountains has been plentiful, and water for the coming season is practically assured.

OVERSTOCKING OR UNDERSTOCKING.

At the State convention Mr. W. C. Dyer said that he believed there was as much danger from understocking a location as from overstocking. He claims that, if the nectar remains in the flower, and is not gathered by the bees or other insects, it will dry down to a hard scale, and so stop further secretion in the blossom; but if there are sufficient bees, the flower secretes nectar for several days.

Mr. Frank Raufhuss corroborated Mr. Dyer by saying that the fuchsia, when kept in the house, will show the scales of the dried-up nectar. The trouble from overstocking in the West seems to be more a lack of pollen than of nectar; and in many localities it is a very serious problem; so, after all, we can not cover the earth with bees as some of us would like.

A GOOD DISPLAY-CASE FOR COMB-HONEY.

A grocer who buys honey in double-tier cases showed me a glass front or glass back which he puts on each one of his cases of comb honey. Instead of removing the top he takes off the back and tacks his glass door on in its place. This door is fitted with two spring hinges at the bottom so that it will close itself when let go. There are three very great advantages in this display-case. First, by placing the case in the show-window the original face shows on the outside, while the new face or rear displays the honey to the customers in the store. Second, every grocer who is doing a good business has need of

all available space; and in half of the stores I visit, some other goods, usually jars of extracted honey, are piled on the lid of the case of comb honey. This glass door on the back leaves the top unmolested. Third, the door closes itself, and so keeps out all dust and dirt. The idea was copied from the glass face which is used on boxes of crackers.

AGE DETERIORATES HONEY.

Mr. Frank Raufhuss showed some comb honey at the bee convention, which was three years old. It had candied and liquefied several times, and the comb was but slightly cracked. The honey was liquid, but it had lost all of its original honey flavor, and was thick like taffy. Mr. Raufhuss said that it could no longer be considered as honey. All the water, apparently, had left the honey, and nothing but a sticky syrup was left. A brick of candied honey also was shown which had shrunk considerably, but was still in the candied form.

The editor says the honey illustrated on page 1437, Dec. 1, GLEANINGS, is in a remarkable state of preservation. The wax may still be as pretty as ever, but the honey, if twelve years old, certainly would never be recognized as honey if it could be tasted separately from the comb. Do you know for sure, Bro. Root, that the honey possesses the qualities of a fresh well-ripened article?

A year ago I experimented somewhat with liquefying candied comb honey. I used the warming oven of the kitchen-range, and I not only liquefied the comb honey without melting the comb, but in addition I got the honey rather thick and sticky. More of the water was driven off than was good for the honey. The prolonged heat does this, and for this reason the liquefying of candied comb honey will never be a very great success. Evaporated or condensed honey in comb is what you will get.

[Honey would evaporate more in a Colorado climate than in the East, generally. The presumption is that a twelve-year-old Colorado honey would be very different from an Eastern twelve-year-old honey. With regard to the honey spoken of on p. 1437, we know no more than is there stated.—Ed.]

FARMERS'-INSTITUTE LECTURES.

Mr. W. P. Collins, in his lecture on "Bees for Profit," takes up and covers briefly all the points in scientific bee culture, such as, hive to use, best breeds of bees, location of apiaries, bee-diseases, production of comb and extracted honey, packing and grading honey, selling and marketing honey, the value of co-operation in buying supplies and selling honey.

Mr. Collins lectures at the following institutes conducted by the Agricultural College. Any one within hearing distance will profit by listening to Brother Collins and talking with him personally:

Rife and Coburn, Dec. 14-19; Delta and Hotchkiss, Jan. 4-9; Montrose and Olathe, Jan. 11-16; Grand Junction and New Castle, Jan. 25-30; Rocky Ford and Canon City, Feb. 1-6.

GLEANINGS FROM OUR EXCHANGES

By W. K. MORRISON

HONEY GRANULATING ON THE HIVE.

Dr. Miller evidently does not care for the idea that comb honey on the hive should be removed to keep it from granulating. That depends on circumstances. Keeping comb honey on a single-walled hive in late fall is poor business in my opinion: on a double-walled hive with a chaff cushion on top of it would be a different proposition. In the ordinary single-walled hives the bees desert the supers during the chilly nights, and go down into the brood-cluster. The alternate chilling and heating hastens granulation, and nothing whatever is gained by keeping it on the hive in any case. It is much better to take it off, put it into moth-proof shipping-cases, and store it where the temperature runs between 80 and 90°. That's the *safe* way.

MORE HONEY FROM KANSAS.

At Garden City the United States Reclamation Service has put into successful operation an irrigation system which depends entirely on steam-pumps which obtain water from wells. This has proved a great success. But it is proposed to construct a much more unique system of irrigation near the same place. In this case it is proposed to use electric pumps, the current to be furnished by dynamos situated 367 miles distant at Canon City, Col. Dams will be constructed in Colorado, and the water piped to Canon City where the power-house will be. In addition it is proposed to equip an electric railway, and also to furnish current to the settlers for lighting and power. It is needless to say that alfalfa and sweet clover will soon appear in large patches around Garden City, Kansas.

DISTANCE OF APIARIES FROM HIGHWAYS.

The agitation in France over the distance apiaries must be from the highway, which was alluded to in a former article, has induced the Parisian *Gleanings* (*L'Apiculture Nouvelle*) to publish the rules established in the various departments of France where regulations have been provided by law.

In a few cases no rule has been legally established. In some the distance is set at 6 feet 6 inches, while in other instances it is fifty meters (162 feet). The department of the Rhone and the Ile-et-Vilaine have established the longer distance. In some instances there is also a provision for a close fence, usually about six feet. The table of distances is very interesting as showing the wide variation in regard to a law which ought to be the same in all cases. I can not understand why the distance is set at 25 meters in the Upper Pyrennes, while in the Lower Pyrennes it is only 10 meters. Does the nature of the honey-bee vary that much in a few miles?

HONEY CIDER.

Mr. Crane objects to the use of the word "cider" in connection with the production of honey

vinegar; but I can not find a word which suits the case better. We speak of apple cider, peach cider, pear cider, quince cider, etc., and why not honey cider? A good many bee-keepers would be glad, probably, to make honey vinegar, and the word "cider" gives them the cue. The Orange Judd Co. publish a book on the subject of cider; and if the bee-keeper will bear in mind that, to produce a good quality of vinegar, he has to imitate apple cider, the subject will be greatly simplified. All they have to do is to add honey to water until it reaches the same saccharine content as cider. This may be found out by means of a saccharometer. The subsequent treatment is the same as for cider vinegar. As a matter of fact, the honey cider or vinegar is the better of the two. It is not a *substitute*.

BEE-KEEPING IN THE OLD NORTH STATE.

The North Carolina Department of Agriculture has recently issued a bulletin on bee-keeping which deserves more than a passing mention. There is probably an impression abroad that North Carolina is a poor country for bees, but such is not the case. In some parts the State offers excellent opportunities for the up-to-date bee-keeper, and the report on the honey-producing flora in this bulletin shows it. The climatic conditions are all right, and in recent years large manufacturing towns have arisen which supply good markets. Some of the nectar-producing trees are extra fine. Sourwood is equal if not superior to basswood, both in quantity and quality; and in some localities it is common. Gallberry and blackgum rank high, and are also common in some sections. The tulip-tree is a heavy yielder, and comes at a good time. Persimmon is good. Basswood ranks seventh among the North Carolina honey-plants. Ironwood is a good yielder in the mountain districts, and there are many others.

THE HONEY OF STINGLESS BEES.

The Associated Press recently gave wide publicity to the following:

STINGLESS BEES' HONEY POOR; PRODUCT OF HARMLESS ONES NOT SO GOOD AS OTHERS.

NEW YORK, Nov. 18.—There is no way to tell the "stingless" bee from the sting variety, according to G. P. Engelhardt, who has just returned to New York after collecting specimens from Guatemala, unless the investigator feels the bee. This is a sure but rather unpleasant method, adds the expert.

In an address at the Museum of Natural History before the Entomological Society last night, Mr. Engelhardt told of his research work and disclosed the interesting fact that the bee without stinging power produced an inferior quality of honey.

Mr. Engelhardt brought a number of specimens home, but the "stingless bees" nearly all died *en route*.

It all depends. I have seen *honey* from stingless bees that was simply vile—little better than sewage. On the other hand, some of it is fine, sweet, aromatic, and clear. It depends on the species you select, the kind of flowers the bees visit, the time of the year, and the degree of ripeness. We have only four or five true or *good* species of *Apis*, whereas there can not be less than fifty species of *Melipona*, to say nothing of *Trigona*, hence there is a wide difference in the honey collected. In the wet season tropical honey is too thin; but in the dry it is much better. It will be a long time yet before we know what we ought to know about stingless bees.

GENERAL CORRESPONDENCE

CAPPING-MELTERS.

The Plan Advisable if the Honey is Not Injured by the Heat; a Glass Indicator on the Separator Pail; Experience with the Beuhne Capping-melter.

BY E. D. TOWNSEND.

[In explanation we will say that we made some different forms of capping-melters, and sent them to several large producers to try. The one sent to our correspondent was made after the Beuhne pattern, as this report shows. Our experience was much the same, viz., that the capacity of the Beuhne melter is far too limited, and that it is a more expensive and complicated apparatus than a device of the kind need be.—ED.]

A successful capping-melting device seems to be an assured thing; for when such practical men as Mr. Fowls and Mr. Lathrop say that it is a success it has great weight. There has never been any question in my mind but that a device could be made that would melt the cappings all right; but the question was, "Could the cappings be melted into wax without destroying the flavor of the honey?" This was a grave question; for, since 20 per cent of our honey goes through the uncapping-box I could not afford to have so large a portion of our surplus hurt by overheating. And now Mr. Fowls and Mr. Lathrop, in the Nov. 15th GLEANINGS, say that, with the latest device for melting the capping, the flavor of the honey is not hurt in the least during the process of melting the wax.

Mr. E. E. Coveyou, of Petoskey, Mich., advocates the heating of honey to 120 or 130° at extracting-time, and putting it into 60-lb. cans at this temperature. This process of heating throws out the air-bubbles; and honey thus treated is slow to candy, so it ought to reach the bottler in the liquid state. The bottler, receiving the honey not candied, would not have to heat his honey so long nor to so high a degree of temperature as would be necessary were the honey candied solid, as is usually the case. This is certainly better; since two heatings at a low temperature are less harmful to the flavor of the honey than one heating to a perhaps higher temperature when the honey is candied solid.

The bearing this has on the subject is, if a whole crop of honey can be profitably handled in the above-mentioned way, surely the 10 or 20 per cent of the crop going through the capping-melter, and probably not heated much if any more than Mr. Coveyou heats his, it would not have a noticeable effect on the whole crop.

I think, Mr. Editor, you are on the right track when you advocate a capping-melter with the idea of *melting* the cappings only. The cappings and honey should leave the hot melting-device as soon as melted, and the separating of the honey and wax be done in a separate utensil. In this way the honey and wax are heated as little as possible, and, as both may be harmed by too much heat, the plan is to be recommended.

In Fig. 6, page 1379, Nov. 15, under the gate of the capping-melter is shown what seems to be a 16-quart galvanized pail, with a gate at the

bottom. This gate is for the purpose of drawing off the honey from the bottom, leaving the wax in the pail until the end of the day, or until there is so much accumulation of wax that it is advisable to empty the whole contents, consisting of honey and wax, into an ordinary pail, for the wax to cool before separating.

The writer has had some experience in drawing honey from under wax, and has often wished for a glass indicator in the separator—a piece of glass half an inch wide and three or four inches long, extending up from the gate, the tin being cut away and the glass put in its stead, so that one might see when to stop drawing honey before any wax begins to go through the gate. With such an arrangement the honey could be drawn out nearly to the wax. This glass indicator would probably become coated over with wax to some extent; but if this should happen, a stick could be worked up and down on the glass from the inside, and the hot honey ought to melt off any accumulation of wax that might adhere.

Less heat would be required to melt the cappings were the space at the top, between the two cans of the capping-melter, covered, except a small opening at some convenient place, this opening to be built wider for convenience in filling and emptying, also for heating uncapping-knives when one thinks it pays to heat.

THE BEUHNE CAPPING-MELTER.

After using the Beuhne capping-melter during the extracting of our fall honey (about 3000 lbs.) it would seem as if the machine should have about four times the capacity to do the work in an ordinary honey-extracting when the combs are nearly all capped over. With nearly all sealed combs of honey spaced wide, then uncapped deep, as we do, a capping-melter would be needed of quite large capacity.

To operate the machine, a two-burner low-down gasoline stove was procured. Although the instructions that came with the machine called for a one-burner stove, the local hardware man had none of that size, so I took a two-burner. The instructions also advised filling the tank of the melter with hot water; but as all of our bees are in outyards, with no provisions made for heating water, the tank of the melter was filled with *cold* water. I was glad that our stove had the extra burner, for both were ignited, and the capping-melter set on the stove cornerwise. The two burners did not take long to heat the water in the tank, so the melter was ready by the time we were ready to do uncapping. When hot, one burner did the work.

Before beginning to uncup in the melter, two sticks, $\frac{7}{8}$ inch square, and the proper length, were crowded in under the pan that catches the honey and wax, which raised the pan as high as it would go, and kept it from getting too hot. This pan is simply to keep the wax and honey hot until they separate, and there is no need of a great heat. This extra heat might have done no harm had the honey and wax been allowed to run out as fast as melted; but in the Beuhne machine, the separator arrangement being in this pan, the honey and wax are held for some time, and the heat should be no greater than is necessary.

The lower outlet of the heated separating-pan, the one that the honey runs through, has an elbow arranged so that it may be turned around;

that is, when the elbow is turned with the opening down, the whole contents of the receiving-pan will be emptied. If the elbow is turned up, nothing can run out from that outlet. Two-thirds the way up toward the top of this pan, and a little to one side, is an open tube. This is the wax-outlet. Near the top of the pan, and still further to one side, is a second wax-tube. To use the top tube the lower one is corked; but we used the lower one. Two pails are placed under these tubes, one for the honey, the other for the wax.

To operate, when the water in the tank is near the boiling-point the cappings are allowed to fall from the uncapping-knife on the heated tubes, to melt. From these the melted wax and honey run down into the aforesaid pan below, to separate, the wax going to the top and the honey to the bottom. The elbow to the lower outlet is now turned up so that nothing can run out of the separating-pan until it fills up to the level of the first or lower open tube. Probably 90 per cent of the mass that enters this pan is honey, and there would be but a thin scum of wax at first; so when the first sign of wax is seen running out of the wax tube, showing that the pan is full, the honey (or lower) tube is turned down, and the honey drawn from the bottom of the pan, but turned up again before the wax begins to run out. This process of drawing off honey is repeated four or five times, or until there is an accumulation of an inch or so of wax floating on top of the honey. When this condition has arrived, the pan is allowed to fill up until the wax is all run off the top of the honey, or until there are signs of honey coming through the wax-tube. Then the honey is drawn out as before, until another accumulation of wax is obtained. This honey being of the dark kind, I could not say whether the flavor was hurt in the process of melting the cappings or not. The wax was not hurt in the least, although it was not in condition for the market.

Nothing has been said of the main advantage of the capping-melter as I see it. The honey that usually goes to waste in the cappings, as usually handled, is saved. We use the McIntyre uncapping-box principally, and at best we leave at least three or four hundred pounds of honey in cappings each year, because we can not get it all out. This loss was saved this year on that part of the crop put through the melting-device.

Remus, Mich., Dec. 12.

[We are very glad to get this report from another extensive producer of honey. We always hesitate to recommend a device advocated only by those who keep bees on a small scale or who are in the business principally for pleasure. Our largest producers are beginning to favor the capping-melter, and this leads us to think more and more that the plan is very economical in more ways than one.

In regard to the strip of glass near the bottom of the separating-pail, we would say that the plan would undoubtedly be a success, although it would be quite expensive to insert such glass in the side of an iron pail, for it would have to be made tight enough to prevent leakage. So far, we have not felt the need of an indicator to show the amount of honey left in the pail, for the rea-

son that we never draw off all the honey. We simply draw enough off so that there is never danger of the pail running over, and it is probable that at least two inches of honey remains in the pail all the time. Another reason why we have not felt the need of an indicator is that the mass of honey and wax is not at a high temperature when it leaves the capping-melter, and the wax very quickly becomes congealed enough so that there is no great danger of drawing off the melted wax at the bottom of the pail. If a very few particles of solid wax run out with the honey it does no great harm, as the honey should be strained any way with the rest that did not go through the capping-melter.

The illustration, p. 1379, Nov. 15, should show a wooden box covering the top of the capping-melter. The bottom of this box slopes down toward the center, where there is a large hole through which the cappings may slide into the melter. This box serves to confine the heat to quite an extent, so that a smaller flame is sufficient to give the degree of heat necessary.

The point mentioned by our correspondent in regard to the saving of the honey is a good one. It is impossible to get all the honey out of dry cappings; for, although such cappings stand for months to drain, there is considerable honey left; and, even though pressure is applied, there is entirely too much waste.—ED.]

COMB VS. EXTRACTED HONEY.

Amount of Honey Consumed by the Bees in Building New Combs not Absolutely Essential in the Solution of the Question; Wax Secreted Involuntarily.

BY R. C. AIKIN.

I have read Dr. Miller's note and the editor's reply, page 867 of the July 15th issue, and I consider the subject of the relative value of comb and extracted honey important, and one which is not generally understood. It is now over thirty years that I have been handling bees with my own hands, and during the past twenty years I have never had less than from two hundred to seven hundred colonies, with an average, perhaps of two hundred and fifty, at a safe estimate. During all of this time, excepting the first two years, I have been producing both comb and extracted honey; most of the time certain yards were run for comb honey, and others for extracted, and there have been few seasons when I have not produced *both* kinds in one or several yards. I have found that there has often been a fairly general average between the various yards, the proportion of one kind of honey to the other sometimes being about equal, although there is often more of *either* kind than of the other. I am speaking now of the yield as a whole and not of the yield per colony, as I will come to that later.

Dr. Miller says it takes from four to five pounds of comb to hold 100 lbs. of honey, and I think he is about right. New combs, and those not enlarged by burr-combs or bulges, will not yield more than two or three pounds of wax to the eight-frame hive; but old combs that have

been bulged, or that have burr-combs attached, yield a little more to the hive. I have several times melted a given amount of comb honey and then weighed the wax and honey afterward, and estimated that about four pounds of wax was needed to hold one hundred pounds of honey.

Following this is a discussion of the number of pounds of honey consumed in the production of a given number of pounds of wax. Dr. Miller says, "If it takes ten pounds of honey to make one of wax, it takes fifty of honey to make that five pounds of wax." From this he thinks that when combs are supplied so that none have to be built, there will result much surplus honey, perhaps a gain of 25 to 50 per cent. Now, I am not able to tell how much honey is consumed in the production of wax, for this is a problem that is exceedingly difficult of solution because of our inability to control all of the factors entering into it. We can feed bees and have them build combs, but we never know how much they obtain from the fields, nor how much of the feed they use for brood-rearing, etc.; and, besides this, we must remember that there is more or less loss or variation due to the several abnormalities that must of necessity enter into such experiments. It would take most thorough and painstaking experiments under the keenest of oversight to get any reliable data on this question of the amount of honey used in making wax. I have long desired to make a study of this, but have always put it off because of the seemingly insurmountable obstacles in the way. But while we may not settle the number of pounds of wax obtainable from a given consumption of honey, we may find the approximate proportion of comb honey obtainable compared with extracted honey produced under the same conditions. I have long been convinced that the popular estimates of this proportion have been much in error, and that there is no such great variation as is generally believed. I want to say right here that I think the question does *not* depend upon the number of pounds of honey taken to produce one pound of wax, for I have found that there seems to be a great amount of wax secreted, whether there is need for it or not; and I will give a few instances to support my belief, and I suspect that the great majority of those who read this can recall many similar instances proving that bees do secrete wax whether they have actual need of it or not.

INVOLUNTARY SECRETION OF WAX.

Some years ago I received some bees in a wire cage that had been sent to me by express, and were several days on the road. These bees had been supplied with water and honey for the trip, and, when brought from the express office, they were fairly loaded with wax scales, and had built comb and stuck bits of wax all about the cage, so that, when put into a hive, they were ready at once for comb-building. These bees were not gathering honey, and had no need of comb, and yet they built it. I said they were not gathering honey; but the excitement and jostling caused them to keep their honey-sacs full most of the time during six days, and they secreted wax in great abundance without having made one visit to a blossom. I think that this points toward an involuntary secretion of wax.

We will take another illustration. Only yesterday I was working in an outyard, and I found

one nucleus the bees of which had secreted wax beyond their needs, and had plastered it on the top-bars of the frames and on the cover, and they had used it also in lengthening cells unnecessarily. The instant I lifted the cover I noted the surplus of wax before moving the frames. The hive was about half full of combs and about one-fourth full of bees, so that there was empty comb in abundance, and not the slightest reason for wax secretion. This nucleus was one that had been made at least twelve days, and possibly about twenty-five days, before. I was looking to see whether the queen had been successfully mated, but I found that she had been lost; and as all the brood was hatching, there was none to feed. A light honey-flow had prevailed for three weeks when a hailstorm stopped it, and my examination was made about thirty-six hours afterward. The bees seemed to have been arranging the stores in the brood-nest because I had put combs of honey in such a position that they had to move some of it to get the nest in the proper shape. Now, under these conditions if the wax secretion was not involuntary, what was it?

This same thing was shown by many colonies in the yard—both those that had queens and those that had not. Colonies having supers in all stages of completion had a surplus of wax which was more or less manifest throughout. This would be but natural in the event of the sudden stoppage of a flow; but this flow was very limited, resulting in a gain in supers of not over ten pounds to the colony during the whole month; and had it not been for the free use of bait-combs there would not have been five pounds gain. The bees used the bait-combs first, full sheets of foundation next, and the starters were almost entirely let alone. In the brood-nests of the weak colonies and stronger nuclei where starters had been given in the brood-frames there was some comb-building on these starters which, under a fair flow, would have been drawn out into full combs. However, during even this slow honey-flow there was plenty of wax secretion.

In several hives where there was an abundance of empty storage and brood-combs the bees had gone out of their way to build comb, in one or two instances passing directly over a dry comb, next to the brood, and building all new comb from starters and from edges of broken combs. The queens showed a preference for the newly built comb, also going out of their way to lay in it. Many of these colonies had built burr-combs and put braces between the top-bars, all built of nice white wax. I am sure that bees *do* like to build comb, for many times I have noticed them using old wax and building comb when there was apparently no call for it whatever, except their desire to build it—this, even when conditions were not favorable for wax secretion. Now, if bees so desire to build comb that they build it when it is not needed, what about the comb-building tendency when all conditions favor and call for it?

When bees are forced, or when their honey-sacs are continually full, they secrete wax apparently without intelligence as to its need. When storing from the fields, or when they are stirred up within the hive, for two or three days at most they will secrete quantities of wax even though not an ounce of comb is constructed.

RAPID AND SLOW FLOWS.

In Colorado in general, and I think in practically all alfalfa districts where this plant is the source of honey, the flows are, as a rule, slow. Think of a flow lasting sixty days with an average daily gain of $2\frac{1}{2}$ lbs. per colony! This, when ripened, amounts to 50 lbs., 25 of it being stored in the brood chamber and the rest in the super, making about one super of surplus per colony. Suppose we double this flow so that there is a five-pound daily gain for sixty days. This would give a surplus of fifty or sixty pounds. More than 25 lbs. would be stored in the brood-chamber, and some would be used for brood-rearing. For nearly thirty years I have kept a colony on the scales throughout the gathering season, and the man would be dull indeed who could not get at least a few points during that time with daily weighings.

In flows where the average daily gain of raw nectar is five pounds (there may be a gain of three pounds one day and six or more the next, just so it does not go over seven or eight pounds for more than two days in succession), the wax secretion will be sufficient for building all the comb necessary to hold it. All my observations lead me to the conclusion that, during an average daily gain of about five pounds, the bees of the colony will not only involuntarily secrete enough wax to hold all that is stored, but they will elaborate it into comb as well.

A hundred-pound surplus gathered in thirty days means at the very least a total gathering of 300 lbs. of nectar, resulting in a daily gain of 10 lbs. Now, if this flow comes on suddenly and fills all the empty combs of the hive before comb-building could get under way there would be a decided loss. But few bee-keepers ever have such a flow, and even those few do not have it often in a lifetime; and such an experience is altogether an exception.

Admitting all the foregoing, that is, admitting that the wax secretion is sufficient in all ordinary flows so that, if not used, it would go to waste, and that it will be elaborated into comb, we have not yet settled the matter. Any practical apiarist knows that, when the honey-flow is slow, it is hard to get the bees to work in the sections. This is not because of a lack of wax, but on account of a lack of honey, and because the bees are not crowded from the brood-chamber into the supers. With light daily gains the honey is more apt to be crowded into the brood-combs, from which young bees are hatching, thereby lessening the amount of brood and aggravating the swarming impulse. Nor is this all. The curtailing of the brood lessens the number of bees coming on for a later flow. Let me illustrate this point.

My locality has practically two flows—the first coming in the last half of June and the early part of July, and the second from August 1st to the 20th. Sometimes there is a more or less steady gain throughout the entire time from June 15 to August 20, but often there is a complete cessation between times, and much variation in the dates and duration of the flows. Nevertheless we look for the two flows. Now suppose the first flow is late. The bees will not go into the supers, but will fill the brood-combs as fast as the bees hatch therefrom, and the eggs which the

queen would otherwise lay in early July to get a host of workers for August are cut off. I estimate that, under such conditions, where my yield amounts to 50 lbs. of surplus, if those queens could be kept laying there would be added to the total yield an additional super, making three instead of two.

These last points have a bearing on the question, which will be explained more fully before I finish this discussion.

Loveland, Col.

To be continued.

NATURAL SUPERSEDURE.

This Plan of Requeening Not Suitable for Modern Methods of Bee-keeping.

BY J. E. HAND.

On page 927, Aug. 1, the Straw man takes me to task for intimating that natural supersedure results in deterioration. He seems to think that, if this were true, bees in their wild state would long ago have become extinct. Did you ever stop to think, friend Miller, that an all-wise Providence has provided a remedy for this evil in the survival of the fittest only, and that fully half of the bees in a wild state are deteriorated out of existence every year, thus weeding out the weaklings and leaving only the strong and hardy to breed a hardy strain of bees? While nature's plan of supersedure is well nigh perfect when applied to bees in their natural state, it is quite different when used in connection with modern methods of bee-keeping, since by supplying foundation, and by judicious feeding, the weaklings are saved to breed more weaklings; and the result is a weakened and inferior strain of bees.

On the other hand, by systematic requeening and rearing the queens from our choicest stock we are constantly improving our bees, and are really much nearer to nature's plan of supersedure than are those who oppose systematic requeening, and are laboring under the delusion that they are following nature's plan.

Mr. Editor, in your footnotes to Dr. Miller's remarks you say, "We find supersedure cells quite equal to those reared under the swarming impulse. I agree with you. It is not that such cells are not liberally supplied with royal jelly; for if the larvæ are removed, and others from a vigorous queen substituted, such cells will produce the best of queens. The laws of heredity are as fixed and immutable as the universe; and so long as the constitutional defects of the parent are transmitted to the offspring just so long must natural supersedure result in deterioration when used in connection with modern methods of bee-keeping; for natural supersedure is *prima-facie* evidence of a weakened condition of the queen.

As the farmer is compelled to meet the problem of keeping up the fertility of the soil by a judicious crop rotation, so the bee-keeper must face the problem of keeping up the productiveness of his apiary by systematic requeening or suffer the consequences.

Birmingham, Ohio, Nov. 2.



YOUNG'S HONEY-CUTTER IN USE.—PATENTED DEC. 11, 1906.

A COMB-HONEY CUTTER.

BY W. J. YOUNG.

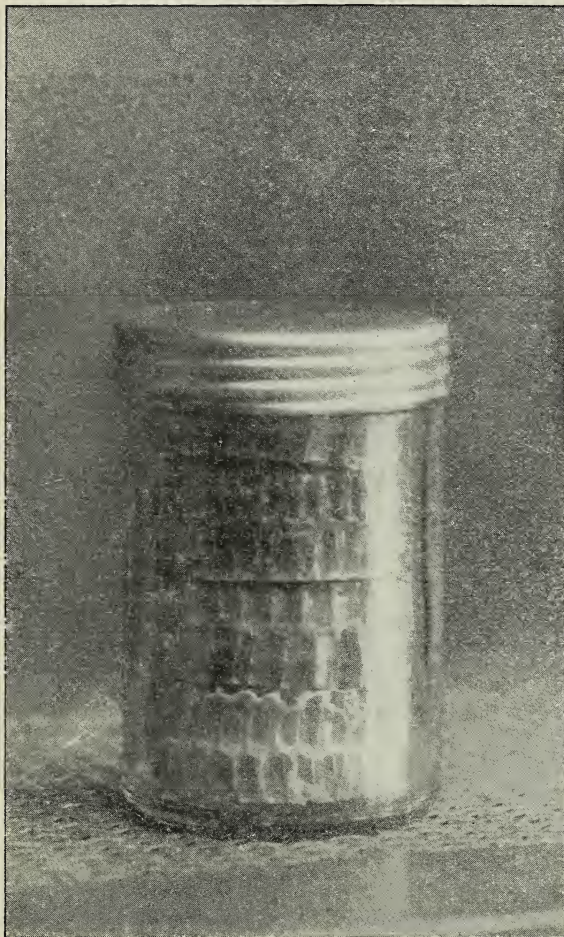
Every bee-keeper knows that bees, if given plenty of room, are more contented, and more likely to confine their efforts to the production of honey rather than to swarming. I use a little machine for cutting round pieces of comb honey out of combs and placing the same in glass jars

so that I can produce comb honey without the expense of comb-honey supers and sections. This places the honey immediately in a package where it is non-perishable and almost non-breakable, and where it shows off to the very best advantage. As will be seen from the illustration, the device works very much on the plan of an ordinary cake or biscuit cutter.

In order to cut the honey it is necessary only to lay the comb on a clean board or a tray made



PLACING THE CAKES OF CUT HONEY IN THE JAR.



A FILLED JAR OF CUT HONEY.

for the purpose; press the cutter through the comb, then pull it out again, when it will be found that the cake of honey is retained in the cutter. By pushing on the handle the cake of honey may be quickly placed inside the can or jar, which should be $\frac{1}{8}$ to $\frac{1}{4}$ inch larger in diameter than the cutter. The jars shown in the illustrations are $2\frac{3}{8}$ inches inside diameter, $5\frac{1}{2}$ inches in height, and they will hold from four to five cakes cut from combs of ordinary thickness. The weight of the comb honey runs from 15 to 17 ounces; and after pouring in sufficient liquid honey to fill the jar the entire weight is found to be about 23 or 24 ounces. The comb shows plainly through the glass and honey, and, when held before the light, is beautiful beyond description.

Tin cans may be used and covered with a suitable label, although glass jars provide a more handsome package. There is a little difficulty in getting jars and cans with large openings that will not leak, but I think this objection can be

very easily overcome. It is important that the opening into the jar should be as large in diameter as the jar itself.

Arecibo, P. R.

[This is on the principle of a cooky-cutter. We have no doubt that it works very nicely, for we have tried something similar. It should be immersed in hot water just before cutting, to get the best results. In localities where chunk or bulk comb honey is in demand, as in Texas, something of this kind could be used to very good advantage.—Ed.]

ALFALFA-GROWING.

Some Experiments to Show the Proper Time to Sow; Buckwheat a Valuable Crop.

BY CHAS. W. WINKLER.

After experimenting with the growing of alfalfa, sowing it both in spring and fall, we find that the latter gives us the better results. We do not lose the use of the ground for a season, and we are not troubled with weeds, which sometimes choke out the young spring-sown alfalfa plants, necessitating mowing several times. To ascertain the best time for fall sowing we sowed several pieces as follows: One field of ten acres, July 25; one field of ten acres, August 1; one field of ten acres, August 10; one field of twenty acres, August 12; one field of ten acres, September 1. All of these fields yielded well. The weeds made quite a growth on that sown July 25, the alfalfa being up a foot. That sown August 1 was freer of weeds. The fields sown August 10, August 12, and September 1, were entirely free from weeds. In the fields sown August 1 to 12 the alfalfa was up eight inches, and the young plants were well established. In that sown September 1, the plants, while thrifty, were quite small, and apparently not well enough established to withstand our winters. We therefore prefer sowing from August 1 to 12.

We use ground that has previously grown winter wheat or oats. We remove the crop, plow the ground and harrow it, and with a Cahoon seeder we sow broadcast 15 pounds of native alfalfa seed per acre, harrowing once to cover the seed nicely. We grow our own seed. One should obtain good native seed, free from dodder and thistle. This is very important. I know of a forty-acre tract that was a total loss just because there was a saving (?) of 50 cts. per bushel for seed. The seed was sown (25 lbs. per acre), and yet there was only half a stand; the rest winter-killed. Five pounds per acre of good seed, evenly distributed, would be ample, with perfect conditions,

for a good stand. I have seen splendid results with 10 lbs. per acre; but we prefer to sow 15 lbs. Most people sow 20 to 25 lbs., and there are a few yet who persist in sowing 30 lbs. of seed per acre.

One grower here demonstrated that buckwheat pays. He disposed of his crop, grown on 40 acres, for \$2000. The enclosed photograph shows a field of Japanese buckwheat which we put in with a press-drill on plowed wheat stubble July 29. It was photographed August 21, average height 34 inches.

After cutting the buckwheat and removing it from the ground we sowed the ground to winter wheat again, using a press-drill. This wheat now looks exceptionally well.

Hastings, Neb., Oct. 1.

SECOND-HAND CANS VS. NEW.

From the Standpoint of one of our Leading Commission Men.

BY R. A. BURNETT.

The letter of D. Everett Lyon, on page 1245, Oct. 15, and your editorial thereon, have been read with much interest. So far as Mr. Lyon's complaint is concerned, it would have no standing, shall we say, in a court of equity, for the reason that the package nowadays is included with the sale of the contents. The practice of charging for packages that would be used again for the same purpose has become practically obsolete. For instance, the tub or package containing butter from the dairy used to be returned to the dairy after the contents had been used, or else the dairy received a compensation for it; but now when the package is emptied of its contents the owner may use it for some other purpose, or offer it for sale to some one else who may be able to use it for some other purpose than butter. Sometimes it is again used for butter, as, since the introduction of paraffined paper, the butter does not soak into the package as formerly, and there is, therefore, a less tendency to rancidity.

However, as a general thing we may conclude that the re-use of packages for the same purpose as first used for is the exception and not the rule.

Then, again, honey is a delicate commodity, the flavor of which is easily removed by injudicious and careless manipulation; and, pray, what is honey without its honey flavor? In my judgment it would be simply a neutral sweet, which we often find to be the case where honey has been taken from the comb before it was ripened, or before it had injected into it what a witty friend of ours called "the bouquet." It is true that there are a few kinds of honey that have very little aroma, and as a consequence they sell for a lower price than honey with flavor, although in every other respect it is of high grade.

Tin cans should not be used a second time for marketing purposes, for the following reasons: Water should never reach the inside of a tin package that is to contain honey, especially one that is provided with a screw top or other small opening, for there is danger of the water not being thoroughly removed by heat. To put the cans on a stove, or where they can have dry heat, may melt the solder and the can will then open at the seams. A can should be simply shaken, and any matter that may be loose in that way may be removed, and then the honey put in without any water having touched the can, inside or out. After the cover has been securely fastened on, the honey may be removed from the outside of the can by water, after which the surface should be dried with a cloth and exposed to dry air long enough to evaporate that which the cloth had not taken up before being cased. Then if the can, after being emptied of its honey, has the top or cover put back on so that no dust or other defiling matter may get in, it can be used for honey again—that is, providing the honey that is again to fill the can is of the same color, for there will remain a small quantity of the first filling, despite the most careful effort to remove all.

Some years ago a large bakery had several hundred cases of the square tin cans that they wanted to dispose of, and sought our help in so doing. At first blush we thought these cans ought to be



JAPANESE BUCKWHEAT THIRTY-FOUR INCHES HIGH IN A LITTLE OVER THREE WEEKS FROM THE TIME THE SEED WAS SOWN.

fit for use the second time; but on further investigation we found that, after they had been emptied, there was some hot water put into them to rinse out what honey remained, which was put into a large vessel, and we were informed this was used to help make gingersnaps, as that form of cake, because of its color, will absorb a good many things without observable detriment; therefore on cutting open some of the cans we found that they had rusted on the inside, while free from it on the outside; and we do not know of any thing that injures honey more quickly than rust.

We have always discouraged the use of cans the second time, and have never offered them for sale, although we get a good many of them sent to us that have been used the second and perhaps more times. People who sell second-hand cans to producers of honey avoid buying honey in those cans themselves, giving as a reason for it that they are afraid the cans are rusted on the inside; and another reason is, they can't sell them so well when they have been used more than once.

From our experience of more than thirty years as honey-dealers we are ready to assert that the producer who buys second-hand honey-cans to put good honey into is losing money thereby, for his honey will not bring as much, as a rule, in old cans as it will in new. Even if the honey is of choice quality, the best buyers are afraid that it may be injured.

Chicago, Ill.

[Mr. Burnett is one of the largest dealers of honey in the United States, and his statements should have considerable weight. On the other hand, we should be glad to hear from the other fellow—the producer.—ED.]

JAPANESE CLEMATIS.

Preventing Robbing by the Use of Wet Hay Over the Entrances.

BY W. C. FURNAS.

I am sending you an enlarged photograph of a bee on the flowers of the Japanese clematis—*Paniculata* I believe it is called. I have never seen this vine mentioned as a honey-producer; but when in bloom here, from about Aug. 15 to Sept. 1 it is fairly alive with bees from nine o'clock until noon. The bees get from it a greenish pollen, and nectar also, I suppose. They were so thick over the vine that I frequently had two or three at one time in the field of an eight-inch lens two feet distant, and several of my exposures show two or more bees; but they work in such nervous, frantic haste that it is difficult to get a proper focus. I also send a photo showing the vine where the pictures were taken.

This beautiful vine is much used in my locality for shade and decorative purposes, and is said to be perfectly hardy everywhere. I have no means of knowing how much honey it really yields. There are perhaps some hundreds of vines within reach of my bees, but I do not suppose there is enough bloom in any locality to make any considerable difference in a honey crop. I consider it of interest as one source which might help tide over times when there is generally a dearth of nectar, and it must be interesting to any bee-keeper to see the way the bees work on the blossoms.

The last view is a fair illustration of the method so often described and advocated by Dr. Miller and others, of stopping robbing by closing



THE JAPANESE CLEMATIS AS SHADE FOR A PORCH.

the entrance with straw or hay, which is then well sprinkled with water. I have had but a limited experience with robbing, but have found this method effective so far as I have tried it. I usually leave a small opening at the corner, so that bees belonging in the besieged hive can pass in out and in.

Louisville, Ky., Oct. 16.

[Our correspondent did not mention this plan of stopping robbing by means

of wet hay or grass strewn over the entrance, with the idea of bringing something new before the readers of GLEANINGS, for he knew that the plan had been before mentioned in these columns, and in several editions of our A B C of Bee Culture. Indeed, it is given the preference in that work over all others, for the treatment of robbing at the entrance of a hive where the bees are making a poor defense. His idea was to give added emphasis to this very practical way of overcoming a common difficulty, and we are glad to give space for the very clear illustration, which will, we are sure, make the matter plain.—Ed.]



CLOSE VIEW OF THE JAPANESE CLEMATIS.

A FIELD MEETING IN PHILADELPHIA.

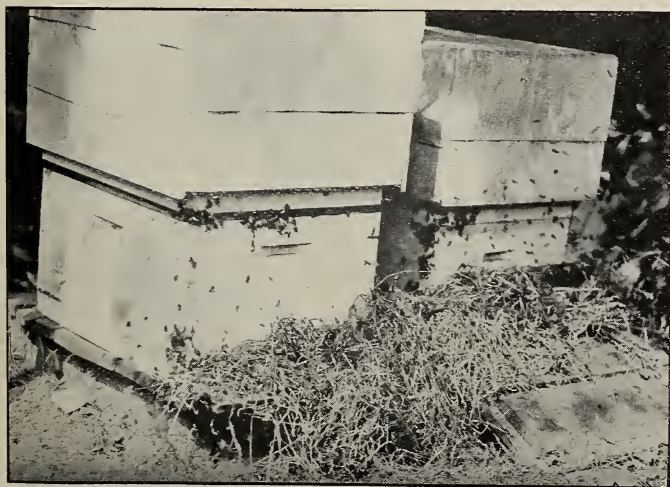
BY W. J. ROBINSON.

I am sending you a few prints and a description of our bee-keepers' meeting held Sept. 19, at George School, Pa. If you consider the prints of sufficient interest, you may use them in GLEANINGS.

Germantown, Pa.

[In the newspaper clipping which accompanied the above letter, a full account of the meeting was given. The affair was in reality a field meeting, and a very interesting one too, judging from the illustrations. After many practical demonstrations an indoor meeting was held in one of the large halls connected with the school.

Field meetings are valuable in any line of business; but they are especially valuable in the bee-keeping line. A subject can often be explained much more satisfactorily if the different operations being described are actually carried out. A number of bee-keepers' associations all over the country are adopting this plan to make the meetings more interesting, and, in many cases, to



PREVENTING ROBBERY BY COVERING THE ENTRANCE WITH WET HAY.



FIELD MEETING OF THE PHILADELPHIA BEE-KEEPERS' ASSOCIATION.

save the time ordinarily taken by long explanations. We wish to commend the idea as being worthy of the consideration of all societies.—ED.]

PARCELS POST.

The Objections Found to be Groundless by a Study of Conditions in Other Countries.

BY THOMAS WM. COWAN,
Editor British Bee Journal.

For some years I have watched the controversy respecting parcels post, and have been surprised at the objections put forward—objections that have proved to be groundless considering the very satisfactory manner in which parcels post works in Europe. When I was in California I supplied a friend who was President of the Postal Progress League, with statistics which showed what an inestimable boon parcels post has been to all classes, and how, instead of being a hindrance, it is a stimulus to trade.

I see in *GLEANINGS*, page 1309, an extract from *The Shoe and Leather Gazette*, in which an endeavor is made to show that parcels post would be an advantage to the large mail-order houses, and an injury to the smaller local merchants. This is not true, for we have found it has been just the reverse. Small shopkeepers who could not keep a large stock of goods formerly lost orders because they could not compete with larger firms who, with their larger capital, could afford to keep a large stock. Since the introduction of parcels post all this is changed, and these small shopkeepers have been able to get a living, as they do not need to have a large stock on hand, samples of the different goods being sufficient. Customers select from these samples, and the goods are delivered at their doors in from one to three days, at the same prices as would be charged at the large houses. The customer does not pay

more, but the tradesman gets his legitimate profit.

It does not appear that the wholesale houses have suffered in any way, and there is no doubt that the small dealers have been benefited, and the benefit has extended to the purchasing public, for it has brought shopping facilities of the city within reach of every one in the country. No doubt your express companies will suffer; but is it not an anomaly that it costs more to send a parcel from New York to San Francisco by express than it does from London to, say, China by parcels post? Even parcels from London to different points in the United States cost less for postage than the express charges in the country. If the express companies can make a profit on English parcels after deducting cost of freight by steamer across the Atlantic, they are surely charging too much for carriage of parcels in the country. It is surprising to us that a practical people should have so long kept out of parcels post, and submitted to exorbitant express charges. No one in Europe would for one moment advocate doing away with the advantages we now derive from parcels post. I hope you may also soon share the same benefits with us.

Taunton, Eng., Nov. 30.

THE ADVANTAGE OF A CAGE FOR PREVENTING ROBBING.

BY E. M. GRAVES.

I wonder how many readers of *GLEANINGS* use a cage when working their bees. I have been using one several years, and would hardly know how to get along without it, for I consider it one of the most useful fixtures about an apiary.

With a cage to set over a hive one can work in comparative comfort all day long, and seldom get stung. Bees are very sensitive creatures, and they do not like robbers about their homes. If we open one of the hives, and a hungry lot of

robbers commence to steal from them, how mad they will get! and we are almost sure to get stung. We can do any kind of work with them when using a cage, but it must be so tight that the robbers have to stay outside; and, no matter how much of a roar they make outside, all will be quiet inside, even when very little smoke is used. Very often, with no smoke at all, we can do all the work we want to, and as leisurely as desired.

The cage is very handy in queen-rearing, both in handling the old stocks and going through the nuclei and mating boxes. I set the cage centrally in the mating-yard, pick up the boxes one after another, take them inside the cage, and, after closing the door, I am alone with the little colony without any robbers to make me or the bees nervous.

The cage I use is made very much like the one shown on p. 1261, Oct. 15, only it is somewhat larger. I made mine in four panels. The two for ends are $3\frac{1}{2}$ feet wide and 5 feet 8 inches high. Each panel has two posts, and two girts sit two inches from the ends of the posts. Then there are two sides 5 feet 6 inches wide, and the same height as the ends with girts at top and bottom, the same as the ends. All are held together with ten-penny finishing nails, one at each joint or four to each panel. There is a door that takes up half of one side, made in the same manner, only the girts or cross-pieces at top and bottom are set close to the ends of the side pieces of the door. There is a middle post which the door swings on. Two-inch butts allow the door to swing, and a small hook fastens it shut so it will stay shut and



HENRY M. TWINING DEMONSTRATING BEFORE THE PHILADELPHIA BEE-KEEPERS' ASSOCIATION.

not be swinging when we step inside. I take hold of the two small bars that run along the sides, and carry the cage easily about the yard. A top part is made in much the same manner, and all is covered with wire cloth; but I do not use it very much, as I find it is not needed in general work; if one were transferring, cutting out combs, or cleaning up an old neglected swarm then it would be all right to put it on, and be sure all is tight around the bottom.

I used $\frac{7}{8}$ -inch boards ripped up $1\frac{3}{8}$ wide, and the four panels are bolted together at the corners with $\frac{5}{16}$ -in. bolts, so I can take it apart and house it when the season is over.

The whole thing is easy to make, and is inexpensive; and that is not all. It is not heavy to handle, and it is just as light to work in as it is

without it. This cage will not blow over as easily as one made of cloth netting, and is much more durable.

Ioamosa, Cal.

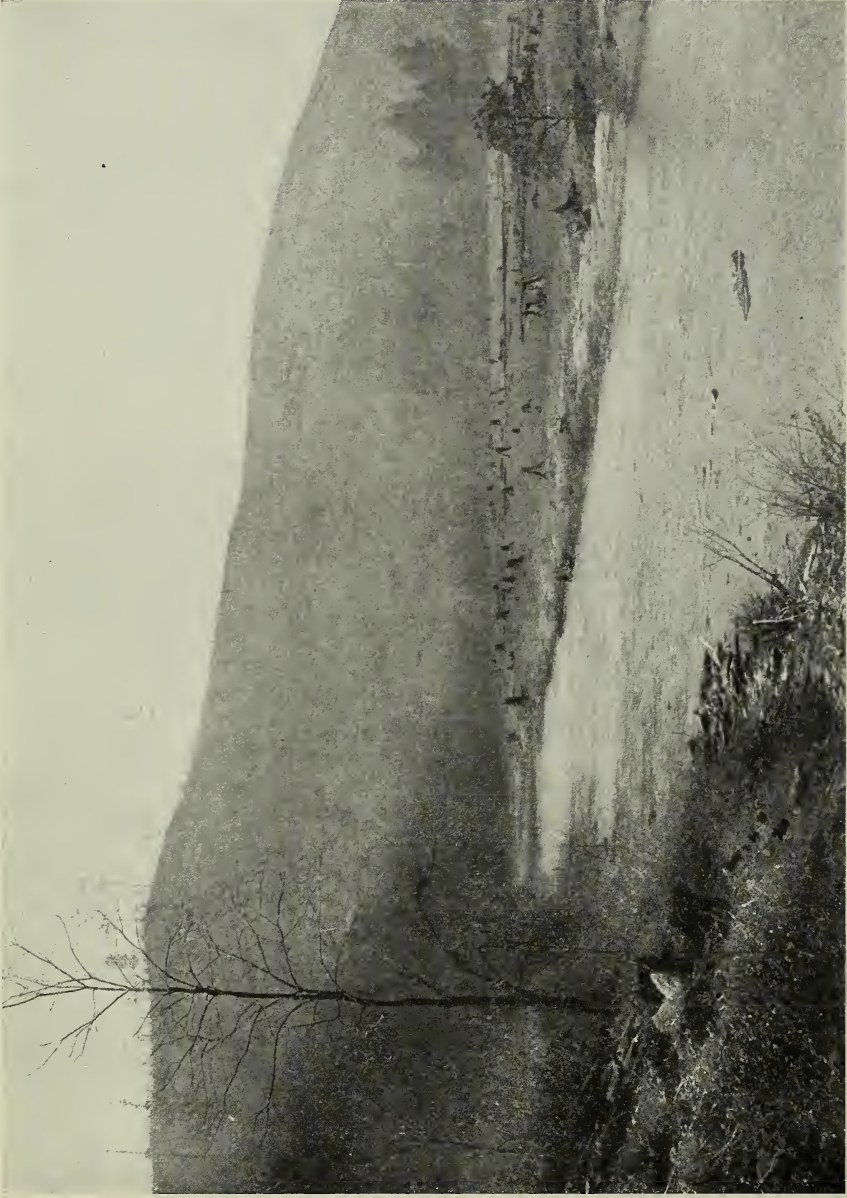
[We use large cages as well as small ones at all of our queen-rearing yards. Indeed, we regard them as indispensable during the robbing season.

For the production of honey they are not so necessary. Most bee-keepers do without. —Ed.]



AN INTERESTING MOMENT IN PRACTICAL DEMONSTRATION.





AFTER THE FIRE.
 This very graphically shows the devastating effects of forest fires. In Northern Michigan, Northern Wisconsin, and in Minnesota, forest fires last fall were very destructive.

A STUDY OF THE CONDITIONS IN A BOX HIVE.

Would Not Wider Spacing of Combs Provide a More Natural Clustering-space for Winter?

BY J. A. CRANE.

I have seen the question discussed as to why bees often winter better in a box hive than in a good chaff-packed hive. I have thought often on the subject, and had accepted the theory advanced that the frame hive allows cold drafts around and over the frames. I still think that is one of the main causes; but how often do we find straight combs in a box hive or bee-tree? I think it is safe to say that crooked combs are the rule; also that the crooks and turns and also the pop-holes are so arranged by the bees, either by accident or intention, as to prevent almost entirely any draft in the hive except such as the bees themselves set up for ventilation or evaporating honey. I have examined carefully all the box hives I have transferred for the last two or more years, and have found this to be the case in every instance, although I think I have seen one or two cases where the combs were about as true as foundation-built combs; but in no case do I recollect their being built straight away from the entrances, as in our hives.

Another thing which seems to bear on this theory is that, no matter how few bees there may be in the box colony, so far as my experience goes, there is never any candied honey. This spring, after severe losses I purchased a lot of box hives which were a caution to look at. Two had no covers whatever—only some sticks laid across the tops. There were from four to six mouse-holes in the sides, and the hives were so rotten that I had to wrap them up in sacks to keep the bees in to take them home; and I rode in fear of the load collapsing before I got home. However, when it came to transferring I found that I could have rolled the hives down hill and not got the combs apart. They were built in angles and circles, and fastened together in all shapes; and, strange to say, there was not one cell of candied honey, even away in the corners of the hive, while the combs were two or more inches thick, while in my chaff hives with straight combs the honey is candied clear to the cluster. I transferred these bees during cherry bloom, and, without trying to save any but good pieces of brood, I filled from four to five jumbo frames with brood, and they soon became the best colonies in my yard. I have also noticed that many of the combs are a great deal further apart than our regulation spaces allow—from $1\frac{1}{2}$ to $2\frac{1}{2}$ inches. This permits the building of combs fat with honey at the top and sides, and thinner for the brood lower down, thus providing an ideal clustering-place for the bees. These bees wintered with a loss of only 6 per cent, without even a tree for protection, and with a mouse-nest as large as a quart measure, with two full-grown mice running through the combs after I had drawn them seven miles, while my loss was nearer sixty per cent in first-class well-packed hives.

I know we do not want such conditions in our hives; but I believe if we could get nearer to them through wider spacing, thus giving thick

combs of honey around the cluster, and wide spaces between combs for the cluster, with an entrance in one corner, we could pass a bad winter with less loss than at present.

I am not advocating any new system on these lines; but do not these facts go to show that the bees are not in a state of nature in modern hives which need so much protection, while they wintered perfectly in a box little better than a potato-crate when allowed to build this home after their own blue prints and specification?

Marion, N. Y.

UNCAPPING.

The Angle and Speed of Blade Important; the Advantages of Cutting Down Instead of Up.

BY F. B. CAVANAUGH.

I wish to add to what has been said in favor of the cold uncapping-knife versus the heated, and in addition to cite some good reasons for cutting downward. I wish also to show why it is preferable from the standpoint of dollars and cents to dispense with the hot-water device entirely.

To keep the knife sharp is good practice; but a proper inclination and speed of the cutting edge are of more importance. A comparatively dull knife will do clean work if a quick slanting cut is made. Notice the principle of the scythe, the angle of the cutting blade. Note that, even with a dull blade, speed will greatly enhance the cutting efficiency.

Our circular saws require a certain speed for highest efficiency. Why not ascertain the proper speed for the uncapping-knife also, and then approach it as nearly as possible?

In uncapping I invariably cut *downward* with the knife-point inclined upward about 45 degrees. I catch the upper nearest corner of comb surface with a forward thrust, then bring the knife forcibly downward at a similar angle, completing the cut at the bottom end by bringing the blade into a horizontal position. If a small strip is left I catch it coming upward.

This method requires wrist power, speed, and a little skill derived from practice. I have found no advantage in very deep cutting, although the beginner who aspires to become a rapid uncapper must expect to cut deep sometimes, and to run the knife out occasionally, but perhaps no more so than by other methods, however. Time saved is money earned, and the downward uncappers are much the speediest.

Now notice for a moment the mechanical advantages of cutting downward over cutting upward. First comes the weight of hand, knife, and capping assisting in the former method, impeding in the latter; second, the pressure in the downward cut holds the comb solid on its support. The upward cut tends to unseat it. Third is safety in the employment of speed while the upward cutter is likely to cut the left hand if much speed or force is exerted. Fourth, in cutting downward the cappings are thrown directly downward into the receptacle instead of catching on the unsealed surface of the comb. Fifth, the easy and natural position of hand and wrist, and downward pressure, causes much less strain on

all muscles employed than does the upward stroke. These items become important in a hard day's work when the operator is taxed to the limit.

The use of hot water on the knife, and the "sawing motion," are both peculiar to the operator who cuts upward, and who necessarily employs little speed. I have not mentioned the waste of honey in hot water, the oil used in heating the knife, nor the extra time wasted in changing knives. All are items worth considering, but not of as much importance as others I have mentioned.

I find that beginners invariably cut upward when uncapping if left to themselves.

I suppose it seems more natural this way, because they can see the cutting edge of the knife. I always insist on my method being adopted for the first two days, and have yet to find one who would go back to the old up-cutting method afterward.

Some may think that the cold knife will not work in thick honey. Perhaps it may wrinkle and break the cappings somewhat, which does not signify much. The underlying surface of the cells will still be found in good shape if proper speed is used. Where honey becomes too thick to be uncapped with a cold knife it is also too thick to be extracted without heat.

I have viewed this question purely from the point of economy of oil, honey, time, and energy, and backed by years of experience in both methods of uncapping.

Any one who will lay aside present methods, and persist in uncapping downward for a few days will be convinced that the method is correct, both in theory and practice.

Springport, Mich., Nov. 16.

[This is the kind of testimony we like to get hold of, because it smacks of *experience* direct from the field.

We dare say that 99 out of a hundred of those who produce extracted honey use the upward stroke in uncapping. It does not always follow that the majority is right. We should like to have this subject thoroughly discussed.—Ed.]

PROPER SHAPE FOR UNCAPPING-KNIVES.

A Valuable Article.

BY ELIAS FOX.

Referring to Dr. Miller's Straw, Nov. 1, I should like to ask why it is necessary to use a straight-handled tool in plain work, and one with offset handle or straight handle and curved blade to reach the depressions. The Bingham knife, with the offset shank as now made, successfully uncaps the entire comb with ease, no matter whether straight, curved, bulged, depressed, or full of holes. For straight smooth combs, the entire length of the blade comes in play; and for depressions, large or small, holes and zigzag corners, the rounded point perfectly fits them all. So, continue to give us the old reliable Bingham.

HONEY EIGHTEEN YEARS OLD.

In reply to the Straw on the same page, regarding the keeping qualities of honey, I should like

to ask what the age limit is. Two years ago I had occasion to liquefy some buckwheat honey that had been kept in an open-top six-gallon stone jar for 18 years. So far as the appearance and flavor were concerned, I could detect nothing wrong. The honey seemed to have undergone no change since the day I put it in the jar, although it had been used down until there was only 15 lbs. left, and it was as dry as sugar.

COLONIES DO BEST IF THEY HAVE NO SHADE.

In regard to the article by J. C. Davis, page 1315, Nov. 1, I will say I have one yard inclosed by a seven-foot board fence, and the hives are arranged around the entire space close to the fence. A part of them, therefore, get practically no sun during the forenoon, and others none during the afternoon, except what little comes through the cracks. The space inside is filled with hives facing south, in rows running east and west. A few are partially shaded by two apple-trees, but the most of them have no shade whatever. There is no difference in the yield, other conditions being equal. My best colony in this home yard faces southwest, and during the honey-flow it has not a particle of shade before 6 P.M. Since I wrote the letter which was published in the Sept. 15th issue, page 1140, I have extracted 25 lbs. more from this hive, or a total of 450 lbs., and the bees have plenty for winter. For my part I don't want any shade, and I would not give a snap for even a shade-board.

COLONIES IN TREES HAVE PLENTY OF WINTER STORES.

I cut twelve bee-trees this fall, and saved the bees, but I put two swarms together, thus making six of the twelve. This brings my bee-tree yard up to 21. The trees cut this fall, with one exception, had plenty of honey—one 60 lbs.; two 75 lbs. each; one 100 lbs. The rest ran mostly from 25 to 40 lbs. I did not care especially to save the bees, but I can not take the honey and leave them in the woods to starve. I saved all the brood by piecing it into empty frames, and several frames were filled with honey by piecing in the same way, and supported by tying common twine around them. In two days the pieces are nicely fastened together, and the frames and strings removed.

I have never had any experience in handling bees before an audience; but in removing bees from the hollow log after securing the honey I reach in and take them out handful after handful, and very rarely get a sting. If I do, it is always my own fault.

Hillsboro, Wis.

[This matter of shade is something that depends on locality. In your climate it is conceivable that shade or sunshine would not make much difference as to the yield of honey. In other localities, reports seem to show that where there is too much shade colonies do not do as well, and, of course, furnish less honey than those colonies that are more out in the open. On the other hand, in hot climates shade is absolutely necessary.—Ed.]

HOT UNCAPPING-KNIVES PREFERRED; CUTTING DOWN EASIER THAN CUTTING UP.

I noticed an article on page 1126, Sept. 15, on the use of uncapping-knives. I have uncapped

with both hot and cold knives, and have worked in New York and California, and I say, *give me a hot knife*. A cold knife works in New York satisfactorily; but when I came to uncap sage honey I wanted a hot knife, for a hot knife cuts the cappings a great deal easier than a cold one.

I always have a whetstone on the uncapping-table, and sharpen my knife every morning, and several times during the day.

I never could make a success of uncapping by drawing my knife *up*. I always shove it *down*, making a clean smooth cut. The cappings will not stick to the comb back of the knife, but will roll into the uncapping-box without holding the frame leaning to one side. Always hold the frame perfectly straight up and down; and when you draw your knife back, cut off the patches of cappings not reached on the down stroke.

San Diego, Cal., Oct. 5. F. G. BOLLING.

[So this question of a hot or cold knife is dependent on the kind of honey. Is that true?—Ed.]

HOT OR COLD KNIVES FOR UNCAPPING.

By all means use a hot knife for rapid work. We use three at a time—two heating while uncapping with the third one.

El Toro, Cal. G. W. BERCAW.

[This is a good report, and the kind we want. Let us hear from others. "In the multitude of counselors there is wisdom."—Ed.]

BEE-KEEPING IN THE IMPERIAL VALLEY OF CALIFORNIA.

An Effort to Establish Priority Rights in Regard to the Bee Territory; a Scheme to Prevent Overcrowding.

BY J. W. GEORGE.

You will find inclosed a bulletin gotten out by the Imperial Valley Bee-keepers' Association, which is self-explanatory. This association meets on the last Tuesday of each month for the purpose of placing the honey of the members on the market, fixing the price, and for the transaction of any other business that may come up pertaining to the bee-keeping interests of its members.

I think Dr. Miller stands for protecting prior acquisition of territory. If so he will stand up and listen to a custom that the bee-men of Imperial Valley propose to follow. At the regular meeting in September the inclosed bulletin was ordered sent out by an almost unanimous vote. At the regular October meeting a motion was carried that the five last named on the information committee be made into an adjustment committee. Then there was a resolution adopted, and incorporated in the minutes of the association as follows:

Resolved, That the adjustment committee be instructed to accept all bees offered to them, and to use said bees in any manner, and as long as they are deemed necessary for the purpose of discouraging any person from placing or maintaining an apiary at any place where, in their judgment, said apiary might be detrimental to the interest of any bee-man who, by right of prior location, had the best right to said location.

After the adoption of the above resolution, on roll-call every member present except two offered 10 per cent of his bees for the purpose of carrying out the resolution. It looks very much as if any one coming into the valley and undertaking to override the custom here would get just what he deserves.

We want it distinctly understood that we will welcome and assist any who may come and *respect our custom*. There will be in time many good locations, but some will have to wait for them to become *profit-producing*.

El Centro, Cal., Oct. 29.

[Although it is not stated in so many words, it is inferred that the ten-per-cent contribution from the members is to be put in one or more lots, and that said lots are to be located right next to a yard of bees that is trespassing on another's territory, until the trespasser would be forced out and compelled to put his bees on territory not belonging to some one else. This would accomplish the result sought, and all would have to be good. The bulletin referred to is given below.—Ed.]

To whom it may interest:

This article is written to meet the demands for facts and figures and reliable information about bee-keeping in Imperial Valley, which are being made in person and by letter to the Imperial Valley Bee-keepers' Association and its members.

The association has found it necessary to appoint a committee of six prominent bee-keepers, whose names and addresses appear below, for the purpose of giving information to non-residents who contemplate engaging in bee-keeping in Imperial Valley.

The committee has authorized the publication of this bulletin for the purpose of calling attention to a few facts which are well worth consideration.

1. The average yield per colony of extracted honey for 1908 has been about 100 pounds, or about half as much as the two preceding years.

2. During the fall and winter of 1907, 5000 stands of bees were shipped into Imperial Valley, and now with those previously located comprise about thirty apiaries ranging in size from 50 to 300 stands, and located all the way from one to three miles apart.

3. The second statement goes a long way toward explaining the first; for, while the shortage has been in part accounted for in various ways, the difference in the amount of honey obtained from different valley apiaries is easy traceable to the number of colonies kept in their respective neighborhoods.

4. The distance apart which apiaries may be run with profit in an alfalfa country depends altogether on the amount of alfalfa grown in proximity to the apiaries and the size of the apiaries. In Imperial Valley two to three miles is considered close enough.

5. The dairy or stock farmer is the valley bee-keeper's poorest neighbor, and the hay farmer his best.

6. The committee strongly advises all non-residents who contemplate engaging in bee-keeping in Imperial Valley to come first and see. Do not take any one's word for it. Come and see for yourself.

7. The information committee is composed of six of the leading bee-men of the valley, and represent different sections, Their duties are as follows:

To impart accurate information regarding the bee business, by letter or interview, to all who ask; to tell and show prospective locators where apiaries are now located, also of unoccupied locations, if there are any, in their neighborhood; to inform prospective locators of the rule or custom adopted unanimously by the stockholders of the Imperial Valley Bee-keepers' Association in open meeting, September 29, 1908, and which is as follows:

That in the future it shall be the rule or custom among bee-men of Imperial Valley not to locate apiaries closer together than two or three miles (according to pasturage and size of apiaries), and that all stockholders of the association shall observe this custom and give their moral support to remedy cases of violation.

7. All prospective locators should call on or correspond with any or all of the committee.

J. W. George, Imperial, Cal.

J. B. Whitaker, El Centro, Cal.

Thos. Phillips, Silsbee, Cal.

L. Davis, Brawley, Cal.

A. Bland, Holtville, Cal.

H. Perkins, Calexico, Cal.

Committee.

Imperial, Cal., Oct. 29.

HEADS OF GRAIN

FROM DIFFERENT FIELDS

POLLEN DROPPED AT HIVE ENTRANCE; LEAKY DOOLITTLE FEEDERS.

I should like to have you explain what makes the bees drop little loaves of bee-bread, at the front of the hive, to a seemingly wasteful extent. The bees in one of my hives do that, and they make a queer noise when out on the front of the hive—a kind of click-clack.

I bought some of the Doolittle division-board feeders, but can not make them hold the syrup. If you can tell me how to fix them I shall be very grateful. MRS. C. M. CLARK.

Hayward, Cal., Nov. 17.

[More or less of pollen is dropped at the entrance when bees are flying, more especially in the spring. The amount lost in this way is comparatively small. If you look in your hives at such times you will see that there is no lack of pollen in the combs. If any thing, there will be too much of it.

Doolittle feeders, if kept in a dry place, are likely to leak by reason of shrinkage. The trouble can be corrected by pouring about a gill of hot paraffine or wax into the feeder and rolling it around in such a way that the hot liquid will spread over the cracks; but in doing this, don't spread it all over, for then the bees can't climb out.—ED.]

ANTS AND OTHER "VERMIN" IN OLD MEXICO.

I find this is one of the greatest bee-fields. I see numbers of the natives have as many as 100 boxes, or hives. The hives as they construct them are boxes 3 feet long, both ends open, lying on a frame. The ants are so destructive that they master the bees even when the hives stand in water-basins. My object in writing this is to address Mr. A. I. Root. I have been reading after you for some time; and as this climate is very similar to that of your Florida home, the various pests are probably the same. The greatest plague here is the ant. They are very numerous. They are laying claims to the banana, the pineapple, potatoes, yuccas, and almost every thing else. Now, Mr. Root, can you advise me what to do to check this work of destruction in my truck-patch? The next pest is the gopher. If I could master these two pests I think I could succeed. My home is on the great Tamiahua Lake—no apiary closer than four miles. Please advise me as to a remedy for the above, and also as to using your system of hives in place of the native system here.

Tamiahua, Mexico. J. A. CAMPBELL.

[My good friend, we had the same trouble on the island; but when Mr. Shumard had about 200 laying hens right in the dooryard and all around the apiary, not an ant troubled his hives.

Little chickens and big went for the ants just as soon as the nest was stirred up anywhere in the garden or apiary, until the ants decided that *that* was not a healthy locality for them. Finally the women-folks complained so much about having so many chickens around that Mr. Shumard

fenced them off to another part of the island, and then the trouble with the ants began. He placed all his hives on benches with the legs standing in basins of water, as you suggest. But this was a good deal of trouble, for leaves and trash would get into the water, and the ants would get across. By putting some kerosene on the water it prevented the evaporation and repelled the ants better than pure water alone; but so long as he kept the chickens away, there was a constant warfare. Every little while the ants would find a hive unprotected, and sometimes they would almost ruin a good strong colony just over night. I do not know of any thing that succeeds so well as a lot of chickens.

I can not answer your question about gophers; but my impression is that a continual warfare with traps and guns, such as we have to wage on skunks, coons, rats, and mice, is the only remedy. A good dog trained to the business will take care of the most of such pests.—A. I. R.]

COMBS CONTAINING OLD POLLEN; HOW TO CLEAN UP OLD COMBS.

Will you kindly answer the following questions for me, which I could not locate in the index of the A B C book?

1. Is a comb pretty well filled with pollen a hindrance or a detriment to the brood-chamber? Sometimes we find such combs, and it appears that they are avoided, and the pollen is never cleaned out of them. What would you advise doing with such combs?

2. Combs that have dead larvæ in them (larvæ sealed and otherwise, that were suffocated through an error), how would you have them cleaned up? Will combs with decaying brood like these, when introduced into other colonies, be likely to bring about any disease?

3. Will bees clean up combs, or, rather, clean bees out of them, in which it appears they starved while wintering?

Elizabeth, N. J., July 15. T. E. DIENER.

[1. It depends somewhat upon conditions whether a comb of pollen is detrimental in the brood-chamber. Usually a comb containing a little pollen should be placed there, if it is not there already, in order to get the bees to storing it in the cells in the brood-nest rather than in the supers. Since the pollen is used so rapidly in brood-rearing, it should be as near the brood as possible. In the case of old combs, where the pollen has become too old, probably the best way is to mutilate the combs considerably by scratching the cells with some sharp-pointed tool. The cells should be scratched nearly down to the mid-rib; and when such a comb is given back to the bees they will clean out the pollen and patch it up so that it looks to be as good as any other comb.

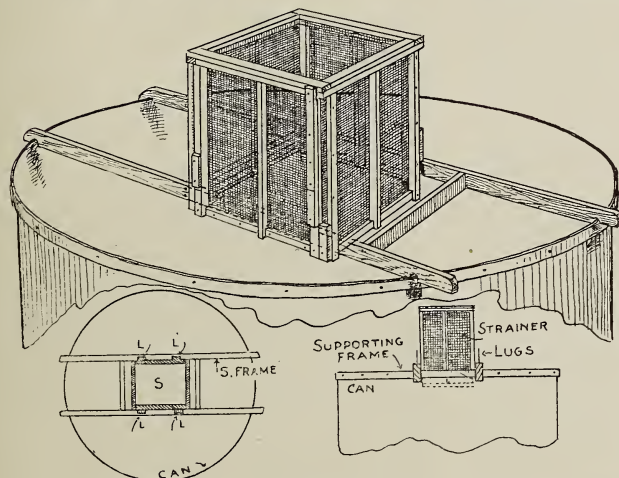
2. If you were sure that the larvæ had not died of some disease it would be safe enough to give the combs to some other colony, one at a time, to clean out; but we do not think this advice is safe enough to send out broadcast without a word of caution, for sometimes there might be disease existing, although there were practically no indications of it. We would advise you to be very careful, therefore; and before you distribute all the combs, if you are not absolutely sure, it

might be well to give one comb to one colony and see if there were any bad effects. Meanwhile keep all of the other combs, etc., away from any robbing bees.

3. If you do not give too many combs to one colony the bees will clean them out, even though there were dead bees in the cells.—Ed.]

A MODIFIED ALEXANDER STRAINER.

The illustration shows the honey-strainer that I have used for 3 years. A rack should be made of two sticks long enough to reach across the top of the honey tank or can. Cut notches in these sticks near each end, then nail two sticks between them the right distance apart so the strainer will fit in between, as shown.



To clean the strainer, put a bee-escape board with the escape left out over a colony; then put on an empty hive-body and set the strainer over night. It will be cleaned in fine shape by morning.

In lighting a smoker some are bothered by the match going out dropped in the cup. I take enough soft wood to cover the grate and then drop in a lighted match. I then add some hard wood, leaving the cover open while I adjust my veil. With this plan, the bellows should not be touched. I can't remember having it fail. I can see that greasy waste should light quick, but I have never tried it, as, in the country, wood is easier to get.

IRVING KENYON.

Camillus, N. Y., Sept. 28.

BEET SUGAR FOR FEEDING BEES IN SWEDEN.

Referring to Dr. Miller's request about sugar, I will say that here in Sweden beet sugar is produced to meet the needs of the country, and little or no cane sugar is imported. We have thus no sugar to feed our bees but beet, and the bees do well on this. I feed every autumn about 1000 pounds to 60 or 70 colonies. I pay about 8 cents a pound for sugar, and get about 17 cents for extracted honey.

J. ENCLUND.

Kulla, Hjelstaby, Sweden, Nov. 13.

SHALLOW SUPERS PREFERRED.

I notice in your editorial, page 1244, Oct. 15, that you are trying and recommending the shallow extracting-supers. After using thousands of the deep supers in extracting in Southern and Central California I think I can get better results from the shallow super. I use a plain frame $5\frac{3}{8}$ deep.

I start my comb-honey hives, in the spring, with a shallow extracting-super, as we have a light flow before the main honey-flow in this part of California. I can also grade my honey better, for I believe in ripe honey.

Paicines, Cal., Nov. 3. G. W. MOORE.

[The shallow extracting-supers are very handy for getting bees into the *habit* of going above with their surplus; then after the season is well on, comb-honey supers can be substituted. This plan gives us both comb and extracted honey.—Ed.]

CABBAGE PALMETTO YIELDS HONEY THAT SOURS QUICKLY; SAW PALMETTO HONEY EXCELLENT.

Cabbage palmetto honey sealed, and unsealed, will foam as though fermentation were in progress; that taken from the combs unsealed will ferment enough to deprive it of all honey flavor, but the sealed only foams. Thin and acrid, and amber in color, it will flow bubbling from the cells behind the knife, and it is not a rare thing to see gas bubbles under the cappings of the sealed cells. Whether the colonies are strong or weak, it is

always the same, when the bees work on the cabbage trees, as the common palm tree of Florida is called. The name comes from the fact that the bud in the head at the top of the tree is eaten in lieu of cabbage.

The saw palmetto bloom is decidedly different in the nectar it yields. Saw palmetto honey, even unsealed, may be called a good honey; and it is, too. When ripened it is a honey that makes a name for itself when enough care is taken by the producer to have it unmixed with other nectars.

I write from personal experience on the east coast of Florida, on the 28th parallel of latitude.

L. K. SMITH.

CONDITIONS IN OKLAHOMA.

I have read nearly every thing in the A B C book, and have seen several copies of your journal; and in all of this reading I have not seen the word Oklahoma in print—not even in the advertising columns. This, together with the fact that my neighbors tell me that honey bees can not be raised here, is very discouraging to a beginner. They tell me that bees have been tried repeatedly here; and in Harper Co., Kan., just north of us, every trial was a failure. It is said that the high winds blow the bees so that they can't get back; that the open winters induce the bees to fly al-

most every day, and that the sudden changes catch them away from home and freeze them.

Over against these discouraging reports I may say I have just put the third super on a new hive, having two partly capped. I have taken out 15 sections of fine honey, all capped over.

Nashville, Okla., Sept. 29. G. E. LEMON.

[We should be glad to hear from any of our readers in Oklahoma who can tell whether the above conditions are serious. The trouble may have been with those who kept the bees.—Ed.]

WINTER CONDITIONS NEAR PORTLAND, OREGON.

In the back yard of a neighbor I saw to-day a bunch of sweet clover blooming as freely as could be expected in the summer. We have had a very mild winter here, however. Our coldest weather so far has been 29 degrees. It is a peculiar fact that here in the Willamette Valley tender plants may often freeze stiff; and yet if they thaw out slowly under clouds and in a damp atmosphere, they are seldom injured. Only when they thaw with a severe east wind or warm sunshine are they killed. Roses, carnations, and some other plants and shrubs are still blooming.

DOUBLING UP COLONIES FOR THE PURPOSE OF CONSERVING THE HEAT FOR WINTER.

I thought I saw great things in this for successfully wintering bees here. I argued that two persons can generate more heat than one, and therefore require less covering than one. So I argued that two colonies would keep warmer doubled up than single, and that brood-rearing would begin much earlier in the spring than otherwise, and so the colonies would come out strong much earlier than otherwise. So in November I doubled up six single colonies with a queen-excluder between them, and left them so until the last of December, when on examination I found that in two of these double colonies the bees in the lower colony had gone above and left their queen below to die, supposedly, for we did not find her, though we did not examine the upper colony to see if she might have squeezed through the excluder. Concluding that it was unsafe to leave the two other colonies together I hastily separated them so as not to lose another queen. Some one in California wrote recently that he had splendid success wintering in this way. It seems strange that I had failure.

Portland, Ore., Jan. 29. P. J. GREEN.

IS HONEY TAINTED BY GALVANIZED IRON?

Will galvanized iron taint or injure the flavor of honey? I can buy a new galvanized-iron tank cheap to put honey in to hold it until prices get better.

DAN A. KELLER.

Hallendale, Fla., Oct. 29.

[Where there is a relatively large amount of galvanized iron to the honey (like a little in the bottom of an extractor), the honey will take on a bad brackish flavor if allowed to stand for a month. Such honey would be slightly poisonous, and, of course, unfit for use. It might cause sickness if eaten. But if the tank has a capacity of 30 gallons or more, and is kept full of honey, no harm results. In California it

is the universal custom to store honey in large galvanized-iron tanks, and we never hear of any trouble or tainting of the flavor. Some of these big tanks hold 30 to 40 barrels, but even from these big tanks an inch or so of honey should not be allowed to stand for any length of time. It should be drawn off at once.—Ed.]

PRESSING HONEY FROM CAPPINGS.

After uncapping the combs in a box with a screen bottom I allow the cappings to drain until I am ready to press. When time suits me I lift out the cappings in balls pressed as tight as I can conveniently roll them.

The press is a simple one, of home manufacture. It suits my purpose very well, and costs but little. To make such a press, build rim of 1½-inch pine, 12 inches square and 7 deep, inside measurements, and bind it on the outside with hoop iron. Rib the sides on the inside with ¾ in. strips placed ¾ in. apart vertically. Then make a bottom and top of ¾×1-inch strips placed on edge ¾ inch apart, and run a ¼-inch iron rod through the ends and middle to hold them from turning over. This ribbing allows the honey to run out all around as it is pressed. There should be a sheet of tin underneath to convey the honey to the pail.

Now place the rim over the bottom and put in the cappings wrapped in cheese-cloth, with a ¼-inch-mesh screen above and below. Now place the whole thing on a board foundation. Put board followers on top, small enough to fit inside the rim. Put two pieces of 2×6 hard wood, one above and one below, with a carpenter's iron bench-screw at each end. By tightening the screws at intervals the honey is squeezed out.

The tin underneath should project out far enough in front to clear the bench, and the whole press should be tilted forward so that the honey will run freely.

After the pressing I remove the cake from the press and place it in a sun extractor, or on a flat shallow dish in a moderately warm oven in such a manner that whatever honey is left will run off with wax when melted.

JOHN BAILEY.

Bracebridge, Ont.

WHITE CLOVER IN IOWA.

The outlook for white clover in Iowa is a little below the average. We had a dry fall and cattle gnawed things close. White clover being an annual, the seed that starts this fall and gets a good root is what gives us the honey. We have about 6 inches of snow now, which is favorable for the protection of plants.

Marshalltown, Iowa.

E. C. WHEELER.

RECIPE FOR PANCAKES WANTED.

Out here in Iowa we can now buy native buckwheat flour, but no one knows how to make cakes as the downeasters do, and no cook-book gives the formula. Can't you get some good Ohio farmer's wife to tell you, and you print in full in GLEANINGS?

B. H. BARNES.

Des Moines, Ia., Dec. 4.

OUR HOMES

By A. I. Root

Blessed are the meek, for they shall inherit the earth.—MATT. 5:5.

Honor thy father and thy mother, as the Lord thy God hath commanded thee; that thy days may be prolonged, and that it may go well with thee in the land which the Lord thy God giveth thee.—DEUT. 5:16.

He that overcometh, and keepeth my works unto the end, to him will I give power over the nations.—REV. 2:26.

We are just breaking away from the rum power. The whole wide world is going through the process of emancipation. Not only are the saloons being put out of commission, but men who drink, and hold important public offices, are being relegated back to the ranks of the common people. Now comes the question, "Who is going to rule?" Our first text says the meek shall inherit the earth; and the last one says those who overcome self and selfish appetites and other evils shall have power over the nations; and our middle text says that those who obey their father and mother shall live longer than those who do not. I think a little observation will enable those who have lived long enough to decide that the clean, honest, God-fearing, and law-abiding citizen does live longer, and that he has a better chance to be a ruler over nations; but because of a bondage that has been a sort of environment around good men in times past, we have not yet emerged clear out of the darkness and into the light. As an illustration, we have not yet secured parcels post here in the United States, nor postal savings banks, and several other good things, just because of some men like Uncle Joe Cannon and other public officers who are under the dominion of the great express companies or insurance companies. The good people who have lived long, and whom God intended to rule over the nations and bless the earth, have remained at home and kept in the background. But a new order of things is being instituted. As I write, the papers tell us that the notorious grafter of San Francisco has just been pronounced guilty; and if he gets the penalty that fits his crime it will be fifteen years in the penitentiary.

There is a great amount of work to be done in this revolution that is now going on in the United States. We have had a sample of it during the last two weeks in our crusade to make Medina Co. dry. Ernest has been so busily occupied, and so much called for in every part of our country, that he declared his department of our business would have to stand over until election day. There are times and things that come to pass in these lives of ours that are far more important than business—things that can not be managed by proxy will have to stand still and *ought* to stand still. It makes me glad to think and know that the meek *shall* inherit the earth instead of the grafters and such like. And, by the way, it just begins to be made manifest, perhaps to a good many people, that those who lead simple lives and practice simple habits such as Mr. Terry has been teaching, and such as I have been trying to teach, will live and *do* live to see a generation born, and pass away, while we are permitted to live and be happy. Every few days my attention is called to people who are all gone

—whole families. I can remember when certain ones were born; and I have watched them more or less while they lived through the average span of human life. Some of them seem worn out by hard toil; others die prematurely from the effects of drink, and some seem to rust out because they sit still and do nothing. When I mention to my friends, one after another, that Terry and I have started out for a hundred years, most of them reply, "Well, I do not want to live a hundred years." And I often think one reason why they look up and give honest expression to such a speech is because they have not had a taste of what God has in store for those who overcome all temptations to selfishness and excess. "To him that overcometh will I grant to sit with me in my throne." He who sits beside the great Father, and watches the unfolding of the great wonders that are going on in the universe, and begins to comprehend and catch on to God's great plan, can not help being happy. While wireless telegraphy, flying-machines, and things of that sort are being exploited, who would not like to live a little longer and get a little part of a glimpse of the great future that is unfolding? We should not desire to live, just out of idle curiosity. God wants us to help bring along the great work. He wants us to spread the glad tidings, to help lift humanity out of folly into light. I know you will not think I am boasting or bragging about what I have done, when I give place to a letter as follows:

It is now some 25 years since I noticed in a copy of GLEANINGS that Mr. Root offered the gift of a smoker free to any one who would quit smoking tobacco. I availed myself of that offer, and in due course of mail I got the smoker. At that time I had been a tobacco-smoker for 25 years, and no ordinary smoker at that. I used frequently to smoke in bed. I then and there gave up smoking, and never since have practiced the habit. I am now 75 years old, and have never regretted the pipe. People say they *can't* give up tobacco or whisky, which is all nonsense. It is not *can't* but *won't*. I did not break my pipe and throw away my tobacco to save myself the temptation, but placed them upon the chimney-piece, nice and handy. It was not long after I quit the habit that I realized the *intense selfishness* of the habit.

I mention the above as it may be pleasant for Mr. Root. His good work in the anti-tobacco warfare was not all a failure after all these years. A. W. THORNTON, MD.

Ferndale, Wash., March 19.

You will notice from the above that it was a physician who was encouraged to give up his tobacco—an example for others. Would it be a stretch of the imagination to think *he* has not only lived more years in consequence, but perhaps helped others to live and be happy? Besides urging the friends who read GLEANINGS to give up tobacco it has been my pleasant task to help fight the great white plague. See what this friend says:

Please send me two copies of the A B C of Getting Well and Keeping Well. We should be pleased to hear that Mrs. Gardner is still improving. Mrs. Zimmerman is a great deal stronger, and feels better than she has for a year or more. She has slept on an east porch with only a canvas for protection in stormy weather. JOSIAH ZIMMERMAN.

Greenspring, Ohio, Nov. 7.

From the above you see that a dear wife has probably been given a longer lease of life, and, more than that, she rather enjoys "taking her medicine." Since the question has been asked, I take pleasure in submitting the last postal card from the dear sister whom the doctors considered almost hopeless more than a year ago.

Brother A. I.:—Pyrria and I are doing our own work this week to allow our maid to have a much-needed rest, so you see I am doing very well toward getting strong. SARAH GARDNER.

Manistee, Mich., Nov. 25.

What makes people die before their time? what stands in the way of their living to be a hundred years old? Mr. Terry and others suggest that it is thinking too much about what we eat, and spending a great part of our lives in collecting together a *great variety* of things to eat. May God help us in this kind of overcoming. The *Sunday School Times* hits emphatically on one of the things that make people die early. Let me quote:

Every fit of temper controlled, every orderly habit learned, every patient bit of work held to and carried out, strengthens the mind, he declares; and every passion yielded to, every carelessness and disorderly trait indulged, is a real mental danger. We can help to build up our own minds, or we can help to break them down.

I think there is no question that the above is right. A quarrel with your neighbor, especially a long-standing quarrel, shortens the lives of both parties. Overcoming a temper that has not been properly controlled is one of the things that are needed to enable us to live to a good old age.

There is another evil that sends people down to their graves prematurely. It is fostered and fed by intemperance. Some of you may smile when I suggest that going to theaters and circuses tends to shorten one's life aside from the evils of being up late nights and wasting money. Let me give you a clipping from the *Cleveland Plain Dealer*, from a sermon by Gypsy Smith, who has just closed a series of meetings in Cleveland:

I have been asked what my views are on the whisky question. Why, any fool ought to know where I stand. I would choke the devil with the last bottle. When the saloon-keepers go to the poorhouse, the others now there will get out.

I have been asked about divorce. You know what I think. The sooner you Americans remedy your divorce laws the sooner your nation will be secure among the great nations of the earth.

My views are just as sound on the theater question. The Lord would not have sat and giggled at a woman in tights. Would you like to see your sister or daughter in tights? Then don't pay to see another man's child.

The divorce business, without question, shortens lives, not only of the father and mother who are concerned in it, but of the poor children who are thus deprived of one or both of the parents. But it is the last paragraph in the extract from Gypsy Smith to which I wish to call your attention. I fear that there are thousands of otherwise good people, perhaps many of them church-members and heads of families, who do not realize that cultivating or encouraging a disposition to want to "see a woman in tights" shortens one's life. May God bless Gypsy Smith, and help him to teach and preach throughout a good long life.

Here is something else in the same line that I clip from the *Woman's National Daily*:

WOULD HANG "AFFINITIES."

The man who leaves his wife for an "affinity" might be hanged if the Rev. James T. Marshall, pastor of the Second Presbyterian Church in Oak Park, Ill., had his way. "The common murderer would make a good Christian Endeavor president in comparison with the men who suddenly discover affinities in wives of other men and put their discoveries in practice," he declared in a sermon on "The Seventh Commandment." "For the wretch who in hunger steals, for him who in anger strikes a blow, for him who falls under the temptation to drink, let us have charity. But for the low, libidinous leper who deserts his wife and seeks to cover up his nastiness with such adulterous sentimentality, let us keep nothing but vitriolic phials of wrath. They are the worst enemies of decency and order, and should be lashed to the uttermost limits of the law. It is to be hoped that our judges will realize their privileges."

Dr. Beaumont, who recently addressed an audience under the auspices of the Medina Y. M. C. A., asked the question in his speech why our penitentiaries need constant enlarging, and that,

to, to take in boys between 16 and 25. Said he, "What means this terrible and great accession to the ranks of boys from 16 to 25 who must be accommodated in our penitentiaries?" Then he gave us the figures to show that these boys came from the cities, where there are many open saloons. Then he added that a startling proportion of them are children of divorced parents—children of the men and women whom Satan has persuaded have not found their "affinity." Amen to what Dr. Marshall has told us.

Education is a great thing—yes, it is a grand thing; but some of the great benefactors of the race have not had a chance to get an education—at least they had but a limited chance in childhood; but let not any of us be discouraged because our environments in early life seem to have been unfortunate. Here is what the *Sunday School Times* has to say in regard to it:

A half-witted child of God sharing a cup of cold water knows more of real happiness in that instant than a brilliant-minded "grafter" or cynic or atheist knows in a life-time. The will to do, not the brains to know, is the secret that is within the reach of all.

Now, then, friends, are you not ready to enlist under the banner mapped out from the three texts I have given you? "Not by might nor by power, but by my Spirit, saith the Lord." Let us hold on to the promise that it is God's plan still that the meek shall inherit the earth; and then, engraven on a slab of stone that Moses, that great warrior, carried, were the words, "Honor thy father and thy mother, that thy days may be long on the land which the Lord thy God giveth thee;" and surely there will be no divorces, neither shall there be any accession from the ranks of young men on the way to the penitentiary. And, finally, it will be the true, steady, temperate men—those who have "*overcome*" all selfish and evil habits, that shall be delegated, by overcoming evil, to have power and to rule over the nations.

DR. MILLER TELLS US SOMETHING MORE ABOUT HIS FIRST VISIT TO MEDINA, O., IN 1871.

Dear old Friend:—After the lapse of so much time it is not easy to recall every thing in clear sequence; but as nearly as I can remember I'll tell you a little about it.

My first visit to Medina was not in 1874, but in the summer of 1871—see *A. B. Journal*, Vol. VI., 1871, page 74, column 2. I think it was in the after part of the day, and I stopped at the hotel and then went to call on you. You insisted on my stopping with you, went to the hotel with me and got my grip, and I was with you until I left the next day.

You mention GLEANINGS as being started. Was it not started a year or two later?

You are right. The first issue of GLEANINGS was sent out in January, 1873.

You give more or less the impression that I went to your place deliberately planning to influence you toward things of righteousness. I am not sure that I had any other thought in going there than to learn something about bees. Incidentally there came the opportunity to say something to you, and, according to my habit, I embraced the opportunity, although I think that perhaps I did talk to you with more plainness and earnestness than usual, for I thought there was unusually good soil for sowing the seed.

Now it seems an ungrateful thing to do, to make you trouble to revise your memory, but I know you'd rather have things right.

Besides the above, Dr. Miller corrects some of the statements I made in my write-up of our first acquaintance that happened so long ago:

Old Friend:—And that "old" doesn't refer to the number of years you have lived, but to the number of years I've counted you as a friend. Let's see—1871 from 1908 leaves 37—thirty-seven years "since first we were acquaint," more than an aver-

age lifetime. Well, old friend, we're neither of us yet living in the past, there's so much to look forward to in the future, and there's such a glorious present—the best period in the history of the world—but it's worth while now and then to stop just a minute and look back over the way through which we've been led.

That first visit to Medina was an event—at least with me. At that time you didn't know me, but I knew you. Among the writers for *The American Bee Journal* at that time was one who wrote over a *nom de plume*, "Novice," whose writings attracted me more than any other. There was an infectious enthusiasm about them. Successes and failures were recorded with equal fullness. So when I learned that the real name of "Novice" was A. L. Root, and that he lived at Medina, Ohio, I made sure to take in Medina the first time I was in that part of Ohio. It was somewhat out of the way, and the only way I could get there was by stage. Think of it! with the fine railroad facilities there are there now.

Although I had kept bees some four years longer than you, you had far outstripped me in making a brilliant success of it, but I think I was your match in enthusiasm; and, didn't we talk! Not a few times since then we have been bedfellows at conventions, and it so happened, on account of a visiting relative, that there was a shortage of bed room that night, and we occupied the same bed. The last thing I remember before dropping to sleep was your detailing a scheme for running the sap from maple trees directly into the hives. Whether you intended to have a hive under each tree, or, anticipating John D. Rockefeller, have a system of pipe-lines, I do not now remember. Your scheme of having a hive planted in a hotbed was not on the carpet just at that time. I wonder just how much of romance and wild scheming there must be in a man's make-up to make him a real success in any particular line. Carried too far, it makes a man a mere visionary, who never gets anywhere, but it's doubtful that there ever was a really successful bee-keeper who did not more or less indulge in day-dreams. He'll make a lot of blunders and go wild in many things, but he'll have a lot of fun while doing it, and he'll finally get there. And you got there.

I didn't make an inventory of the things I learned while there, but I may remind you of one thing you learned from me. I showed you my way of smoking bees. Think of it! Giving instruction in smoking bees to a man who has sown bee-smokers by the thousand all over the world! I'm not sure, but previously your plan was, perhaps, to have a burning brand to be held in the hand. I can not imagine your using tobacco—the usual practice at that time. Well, my improvement was to have a pan of burning coals on which the smoking brands could lie. You seemed quite pleased with the acquisition, but within a day or so your burning pan set fire to the sawdust you had piled in front of a hive, and you came pretty near burning up the whole business. I wonder if that started you in having such an interest in smokers. Probably you would have made smokers all the same if you had never used an old tin pan, but your true enthusiast is always tickled over the slightest improvement, for it's almost stretching the use of the word "improvement" to apply it to the pan as compared with holding the brand in the hand, blowing with the breath in either case.

It has always been a pleasure to me to remember that I did not fail to speak an earnest word, when the opportunity offered, that might help at least a little in starting in the way of righteousness one who has since done so much to guide others. "A word in due season, how good is it!"

First and last I've written a good bit about bees in my time, and I wonder if you know that you gave me my first real start at it. When comb foundation was first mentioned I was somewhat eager to learn about it. I thought I'd like to know how the thing was made, and wrote to you for particulars. But I looked in vain for information in succeeding numbers of the *American Bee Journal*, for, of course, it was not possible for you to tell me how to make foundation without any thing in the way of a machine. All the same I tried my hand at it. I don't know that I had any idea that foundation should be embossed. I poured hot wax into a pail of water, and it cooled into a sheet, but it was not a very thin sheet. The bees used it, however—after a fashion. Then I dipped a sheet of paper in hot wax, and the bees did not such bad work with the coated paper.

Ernest suggested that Dr. Miller did have some failures, and some of them not very long ago. In answer to the question, he replies as follows:

The years 1901 and 1906 were failures. Formerly poor years outnumbered the good. The proportion has been reversed, good years now being the rule.

In the upper corner of a brood-frame, where the bees never used it for brood, was a piece of coated paper that had writing on it, and for years I could hold it up to the light and see the writing. Possibly it is in existence yet, but I don't know where.

Well, that was not what started me to writing for publication, but it was writing to you at another time that did. Sections made their appearance, and I didn't make satisfactory work fastening foundation in them. That was before the day of foundation-fasteners, and the only sections were four-piece, the top-bar having in it a saw-keef in which the foundation was held,

the top-bar being split partly open to receive the foundation. You had by that time started a little publication in which you answered questions—although it had the same name it differed no little from GLEANINGS of to-day—and in that you agreed to answer any questions sent to you. So I wrote, asking how to put foundation in sections. In order that you might fully understand the case, I described in detail just how I had been doing, even making a little diagram. Imagine my mixed feeling of surprise, disappointment, and gratification, upon finding my letter printed in next GLEANINGS, word for word, diagram and all, with never a word of reply, and you *paid me* for it! I thought if it was worth while to write about things I *couldn't* do, it might be worth while to write about things I *could* do, and I've written for GLEANINGS several times since.

You've been wondering whether, when I've had such fine crops of honey, I've said, "Praise God, from whom all blessings flow." I don't think I ever did. I used a more direct form. If some earthly friend should give me so much nice honey, the least I could do would be to say, "I thank you;" and as I have taken super after super of nice sections from the hive, I've always had the feeling that each one was handed to me by the loving heavenly Father, and many and many a time I've said aloud, with no one but God and the bees to hear me, "O God! I thank thee!" What a comfort it is to know just who it is that gives us such nice things, and to be able to thank a real person for them, instead of having a general vague feeling of thankfulness without anybody in particular to thank!

While I think it may be good policy for some to renew their queens frequently, I'm in hearty sympathy with you in thinking that many a queen would have the best of her life cut out if not allowed to live beyond a certain date. Some of these days I believe more attention will be paid to longevity than it now receives, and it's rather poor encouragement toward that sort of thing if a queen is told that if she makes any attempt toward a long life the punishment for that sort of ambition will be a violent death.

Well, well! what a lot of changes in bee-keeping as well as in other things have taken place "since first we were acquainted!" and I don't see that we're nearer the end than we were at the beginning. Just as many new problems are coming up as ever. I'd like to see what new ones bee-keepers will be struggling with twenty years from now. Yes, I *would* like to live to be a hundred, if for nothing else than to tag along after you and Terry to see how you make it. And no doubt a live interest in bees, poultry, potatoes, or whatever, will help to make one live longer. Possibly, however, it isn't best to live too long. Five minutes taste of the next life may make us wish we hadn't stayed so long here. Each year of this life seems better than the last, and I'm sure the life ahead will be better than this.

C. C. MILLER.

Marengo, Ill., Nov. 24, 1908.

TEMPERANCE.

BEE-KEEPERS AS TEMPERANCE REFORMERS.

On p. 1332, Nov. 1, I said that brother York's address would probably be found in the *American Bee Journal*; but as I do not see it there we have concluded to give it in GLEANINGS. It was delivered at the Detroit meeting of the National Bee-keepers' Association, among some other "toasts" given at the second evening session.

Mr. Toastmaster—Ladies and Gentlemen:—The pathway of the reformer is usually strewn, not with flowers, but with hardships and some stings. It is not unlike that of the bee-keeper, at least so far as it relates to stings, only the bee-keeper's stings are of a different character and source.

I think it was the poet Whittier who advised young men to ally themselves with some unpopular righteous cause, and then push to make it win. The day *was* when the temperance cause could be classed with the unpopular causes, but not so to-day. It is rapidly getting to be *very* popular these days to be on the side of temperance and prohibition of the liquor traffic, and against the open legalized American saloon.

But *are* bee-keepers temperance reformers? My experience with them for nearly a quarter of a century has very clearly shown that practically all bee-keepers are on the side of temperance and prohibition, and the rest are coming fast. Bee-keeping and intemperance don't go well together. It is a combination that would be likely to result in *more* stings, and may be some "snake-bites" as well. Surely the bee-keeper who *indulges* in strong drink is *stung* and bitten in more ways than one.

"I have such an indulgent husband," said a good lady. Whereupon her friend, Mrs. Spiteful, said, "Yes, so John says. Sometimes *indulges* a little too much, doesn't he?" How thankful is Mrs. Beekeeper that *her* husband is among the right kind of indulgent ones!

It is a fact that practically all of our leading bee-keepers are temperance men, and I dare say, put their principles into practice and full effect at the ballot-box whenever an opportunity arises so to do. Now, there is the "Grand Old Man" of Freedom, Dr. Miller, of the *West*. He stands four-square on temperance and prohibition. And so does that other Grand Old Man of the *East*, Mr. Doolittle, who *does so much*. And then there is A. I. Root. He's been "Rooting" around for a good many years, and I have always thought from his sermonettes that he would not be caught running a saloon should he ever quit running a bee-supply business and raising "garden-sass." I think all will concede that A. I. R. isn't allied with "*hot-air*" when it comes to the temperance question and a few other moral subjects.

I might go on and name a glorious company of bee-keepers from all over this and other lands—even over in Canada—who are temperance reformers, and who would do their utmost to help wipe the saloon curse off the earth. But there are so many that it would be impossible for me to name or count them. The proper place to count those in the United States will be at the polls on Nov. 3d, when, no doubt, they'll be just "*Chafn*" to roll up a big vote for the great reform which all mankind should want to see win.

Now for a little personal experience with bee-keepers on this drink question. As a good many know, I have not failed to attend a single National Bee-keepers' convention, and some others not national, during the past fifteen years. And I am most happy to say that on only one occasion have I ever been asked to take a drink. That was in Canada, I regret to say. Of course, that particular Canuck wanted to *treat me right* while I was enjoying existence under the flag of Her Majesty, Queen Victoria, at that time—1895. But I never blamed the rest of my good Canadian brethren for the mistaken kindness of that one of their goodly number; for he was much in the condition of a man whose good wife said to him, "Now, Jim, when you're full, instead of asking for more *beer* why don't you ask for *sarsaparilla*!"

"Well, by Jove," he said, "when I'm so full as that, I can't say *sarsaparilla*—it's *la!*"

All who have made a practice of attending these gatherings of bee-keepers know how seldom we see one of our crowd smoking, and (now) *never* drinking. When the convention was held here about 25 years ago we had to pay \$40 rent for the hall in the third story of a building. The owner of the building kept a saloon in the basement, and, oh how bitterly he talked when he was paid his rent! He said, "If I had known what kind of a set of fellows you were you would never have got that hall for that money. *Not one of you has been in my saloon!*"

At the hotel opposite, where most of the convention members stopped at that convention, the boy at the cigar-counter was heard to say, "Queer crowd this. Do you know I have sold them *just three cigars*?" (And I should say that was just three cigars too many.) The fact is, the name "bee-keeper" is almost synonymous with "temperance," and I rejoice in it. We can all help to hasten the dawning of that blessed day when there shall not be a saloon or drunken man on the face of this beautiful earth of ours.

Temperance and prohibition have made such rapid advances during the past few years that to-day some forty million people of the United States live under a "*stainless flag*" so far as the open saloon is concerned. And I truly believe that, before another ten years shall have passed, there will not be a legally open saloon beneath fair Columbia's flag of freedom.

But we shall have to settle this great liquor question among ourselves. And this reminds me of a story I once heard. It occurred in Alabama. A colored man had a little pig he wanted to sell. A white man came along in the morning in his wagon and bought the pig for \$3.00. He drove away, but somehow the little squealer managed to get out, and ran back home to its little pen. About the time it arrived, another white man came along who also wanted to buy a pig. He bought it, and paid the colored man \$3.00 for it. He had not gone far when he met the man who first bought the pig, and was asked where he got that pig. "Why, I just bought it from the colored man up the road."

"Well, that pig is *mine*," said the man who bought it in the morning. "I was driving along, and somehow it got out and must have returned home. Let's go back and see that nigger, and find out why he treats us in that way."

Arrived at the negro's cabin, the first man asked, "Didn't you sell me that pig this morning for \$3.00?"

"Yes, sah, ah did," said the darkey.

"And didn't you sell the same pig for \$3.00 to this man a little later?"

"I did, sah," was the answer.

"Well, what kind of treatment is that?"

Whereupon he gave the following reply in a self-satisfied manner: "Well, now, gen'men, can't you go way by yourselves and settle dat little question?"

It is up to us all to settle among ourselves the question of the liquor business. We can't shift responsibility as the colored man in Alabama tried to do.

Referring again to the tobacco question among bee-keepers, which is really the temperance question in another direction, I am reminded of an incident that occurred in Chicago when Newman & Son were in the bee-supply business and I was in their employ. A bee-keeper called to get some supplies, and after

buying several things Mr. Newman, Junior, said, "And now wouldn't you like a smoker?" meaning, of course, a Bingham bee-smoker in those days. Very promptly came the reply from the bee-keeper, "No, thank you, *I don't smoke!*"

I think it was in Philadelphia that a bee-keeper of the temperate kind was employed. As he was about to change to another position he asked for a recommendation from his old employer. He was granted his request, the testimonial reading, "The bearer, Mr. Beeman, is industrious, hard working, faithful, and *sobber*," etc. After reading it over, Mr. Beeman asked his former employer if he would please make it a little *stronger*. Why, of course, he said he would if only he knew how Mr. Beeman would like to have it. Whereupon the bee-man said, "Put it this way:

"Mr. Beeman is industrious, hard-working, faithful, and *often sober*." He thought "*often sober*" was better than plain *sober*.

Of course, he was an exception, and probably came from the Emerald Isle.

But I must not continue longer. I wish only to say that I am proud to be one of such a royal, temperate company as are the bee-keepers of this and other lands. But we must not fold our hands and sit idly by while our fellow-men are pushing the battle against the open saloon. We must do our part to raise the nation's manhood. We must let our light shine, we must use our influence—yes, and our *ballots*—whenever an opportunity is presented to strike the demon Drink a killing blow.

How long, how long this degradation,
To blight the manhood of the nation?
How long fair woman's name dishonor,
Heaping shame and grief upon her?
Whose gentle voice so long hath plead,
Whose feet so long have sunward led—
Little voices vainly crying,
Joy of childhood crushed and dying!

Defend the home! Protect the school!
Blow, blow a ringing bugle note!
For manhood strike! for manhood vote!
Till manhood rules from sea to sea,
Magnificent in victory;
Till mountain-peak and prairie sing;
Till our broad land, redeemed, shall ring:
Manhood is king!

GEO. W. YORK.

That story about the darkey and the pig is a magnificent illustration of the way things have been done in times past. From the celebrated "nullification act" when they tried to put out the canteen, we have had evasion, shirking of responsibility, and no end of subterfuges and excuses, not only among common people but among those who are away up high in sacred and important offices. Yes, we have been obliged to *put up with* miserable and shameful evasions and excuses as a reason for *not* enforcing our laws and closing up the saloons, gambling-houses, and places of ill fame connected with the drink traffic. Bro. York did not go on with his story and tell us whether the two men who bought and paid for the same pig submitted to that sort of philosophy. Well, *we* have submitted and put up with it, and *let it go* for many long tedious years in times past. But, may the Lord be praised, we are now in the midst of an awakening; and common sense and some sort of show of justice *is* taking the place of such ridiculous philosophy.

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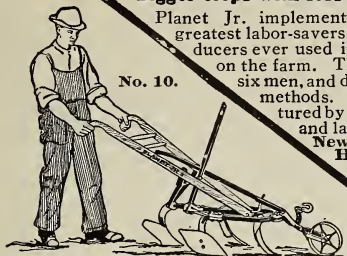
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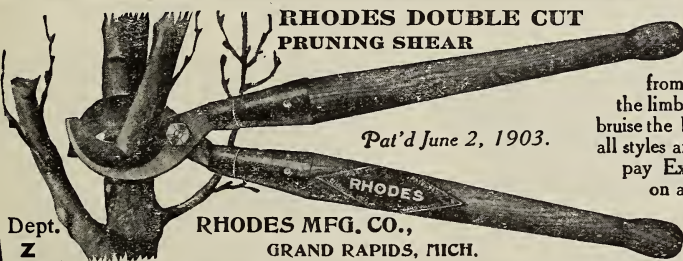


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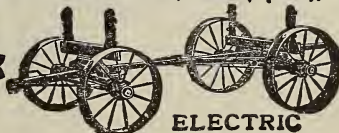
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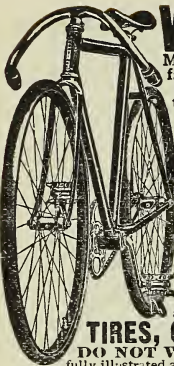
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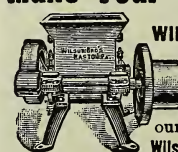
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Make Your Own Fertilizer



at Small Cost with **WILSON'S PHOSPHATE MILLS** From 1 to 40 H. P. Also Bone Cutters, hand and power for the poultrymen; grit and shell mills, farm feed mills, family grit mills, sorghum cake mills. Send for our catalog.

Wilson Bros., Sole Mfrs., Easton, Pa.



Build Your Own Incubators and Brooders

and save half the purchase price. Any one can do it. I furnish the mechanical parts, Lamp, Regulator, etc., at low prices. My new Acme Burner, Tandem Thermostat and Special Heater will save half the oil. Over 25,000 have built machines from my plans. Not a single failure. **LAMPLESS BROODER** will only cost you \$4.00. Complete plans and catalog, prepaid for only 25 cents. Worth dollars to you. R. M. Sheer, 479 Hampshire St., Quincy, Ill.

Burpee's "Silent Salesman" of The World's Largest Mail-Order Business in Seeds will be mailed Free to all who appreciate Quality in Seeds.

A book of 174 pages. It tells the plain truth about the Best Seeds that can be grown,—as proved at our famous FORDHOOK FARMS,—the most complete trial grounds in America. With hundreds of illustrations from photographs and carefully written descriptions, it is A SAFE GUIDE to success in the garden and should be consulted by everyone who plants seeds. Kindly name this paper and address

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SCARFF'S SMALL FRUITS

and bees are an ideal combination for bee-keepers or farmers. Order early and plant a generous quantity of these fruits. The bees pollinize them, making them produce in luxurious abundance, and at the same time increase amount and value of honey.

Small Fruit Plant Free. I want to prove how well-rooted, strong and vigorous my plants are. I will send free one fine plant (my selection) if you will write for my new 1909 free catalog. Some of my customers make over \$300 an acre with my plants. Book on "Transplanting and Afterculture" free with all orders. I sell a large variety of nursery stock, grown on an 800-acre farm. Ask for Catalog E. W. N. SCARFF, New Carlisle, Ohio




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Late Petoskey **Will Do it**

Our new seedling. A prodigious yield of **Large, Round, Smooth, White, Deliciously flavored** tubers. Vigorous grower; handsome in appearance. Splendid shipper. Cooks dry and mealy.

For 25c (stamps or coin) will mail 1 lb. Late Petoskey, 1909 catalog of sure to grow **Northern Brown Seeds**, and coupon good for **50c worth Free Seeds**. Catalog alone mailed free. Write quick.

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Best quality Garden, Flower and Farm Seeds, Alfalfa, Clover, Seed Potatoes. We will send free with catalog a packet of **you** ask for new lettuce seed **us today.** "May King" the **so** have full best head let- **line of Nursery Stock, Roses, Plants and Bulbs.** intro- **German Nurseries** duced, **Can Sonderreger, Prop.** if **Box 143 Beatrice, Neb.**

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Two Packets for Trial.

We send two regular sized packets of our superior Garden Seed, your selection, and our **Big 1909 Seed Manual** absolutely **Free** to all new inquiries. We are anxious to increase our number of customers and have you become acquainted with our **Guaranteed Seeds** is the reason we make this generous offer

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For Big and Quick Profits
Or For Your Own Use.

Ten years' experience enables me to give practical instructions worth many dollars to you without interfering with regular occupation, no matter where located. Send for Free Book and particulars how to start, etc.

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200 varieties. Also Grapes, Small Fruits etc. Best rooted stock. Genuine, cheap. 2 sample currants mailed for 10c. Desc. price list free. **LEWIS ROESCH, Box A, Fredonia, N. Y.**

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(LARGEST SEED-CORN GROWERS IN THE WORLD)

TREES

Samples of Green's Prices:

25 CENT OFFER One Crawford Peach tree, 1 best New Diploma Currant, 1 Niagara White Grape, 1 Live Forever hardy Rosebush, all delivered at your home, by mail, for 25 cents.



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Fourteen trees for \$1.00 as follows: 8 Plum trees, 2 Burbank, 2 Lombard, 2 Thanksgiving and 2 Abundance; 1 Bartlett Pear, 2 Elberta peach, 1 Richmond and 1 Montmorency hardy Cherry trees, 2 Live Forever Rosebushes. Express Collect. **ALL FOR \$1.00.**

Trees about 4 to 5 feet high, 2 years old.



GREEN'S BIG OFFER Fifty Plum trees, your choice, about 4 to 5 feet high, 2 years old, for \$3.00. 50 Cherry trees, your choice, about 4 to 5 feet high, 2 years old, \$5.00. Cash with order.

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BOOK WORTH A DOLLAR FOR 10 CENTS. Send 10 cents for postage and mailing **Green's Book on Fruit Growing.**

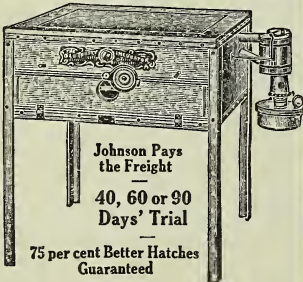
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—Best Ever
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Be sure to raise chickens this year—and I ask you, old friend or new friend, to send me your name early for my new 1909 Poultry Book. It's better than ever—every page a poultry sermon—over 200 pages and over 1,200 photograph pictures.

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40, 60 or 90
Days' Trial

75 per cent Better Hatches
Guaranteed

The same sure and certain Old Trusty, made of California Redwood, is encased this year with metal and is absolutely fire-proof—legs and all.

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A limited stock of seed and bulbs selected and grown for years from the finest cut-flower stocks in America. There is from \$1000 to \$2500 per acre in them too, if you are tired of your present work. I would like you to see my booklet.

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A remarkable collection of grapevines at an exceedingly low price. Best varieties—red, white, black—just what the town man or the farmer needs for planting along fences and buildings. Vines can be arranged to cover unsightly places with beautiful foliage and at the same time furnish fresh grapes for the table. We also offer

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These are strong, hardy vines, and will bear the year after planting. Order now and vines will be sent proper time to plant. With every order is sent free our valuable book how to plant, cultivate and prune. Grapes are easily grown and should be in every garden.

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Yellow blooms three or four weeks earlier than white. One of the best bee-foods to be found.

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Largest Nursery Center in the world. Annual output more than **6,000,000 Fruit-bearing Trees** alone. Buy direct at wholesale and save **300 per cent.** Secure varieties now—pay in spring. **CATALOG FREE TO EVERYBODY. SHEERIN'S WHOLESALE NURSERIES, DANSVILLE, NEW YORK**

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—Not just a printed *promise*, but a *fact*—I can save you all of \$4.15 over the next lowest price of any incubator of equal size; freight prepaid. And I'll guarantee it to be the best chicken-hatching, money-making incubator you can get at any price.

Fire-Proof Belle City Incubator Freight Prepaid

is sold entirely at my risk. My liberal guarantee gives you 90 days' trial. It has double walls and dead air space all over, 12-oz. cold rolled copper tank and boiler. Safety lamp and lamp support, self-regulator, deep nursery, strong egg tray, thermometer, egg tester, etc., complete. The Belle City Brooder—hot water heat—is the only brooder that has double walls and dead air space—a rare bargain, too. So get my factory-to-you prices now—see how much you will save. My interesting book, "Hatching Facts" for 1909—mailed free. Write for it today. Address

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That is what we guarantee you can do with the

Invincible Hatcher

Try it and if it don't produce more strong, healthy chicks than any other incubator, regardless of price, send it back. 50-Egg Size Only \$4.00. Same low prices on larger Hatchers, Brooders and Supplies. Write for 176-page FREE catalogue.
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GREEN BONE and VEGETABLE CUTTER

will save half your feed bills and double egg yield. Guaranteed to cut more bone, in less time, with less labor, than any other. Send for Special Trial Offer and handsome catalogue.

HUMPHREY,
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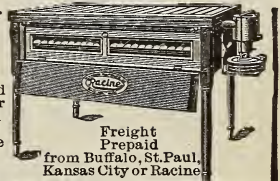
We Invite You to Write Us

Either letter or postal card. We want to send you our free incubator book—written by a man with 27 years' experience. Plain book of practical facts on raising poultry for profit.

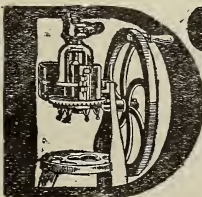
Racine Incubators—Fire-Proof

Don't take risk with dangerous machines. Racine Incubators and Brooders are simple, sure and safe. Our prices are lowest. Yet our machines hatch highest per cent of fertile eggs. Make money for you from the beginning—give lasting satisfaction.

Better look into our proposition. Just a letter or postal gets free book, low prices and free trial plan. Write today—G. C. Wheeler, Mgr. Racine Hatcher Co., Box 114, Racine, Wis.



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Fresh, raw, green bone contains over four times as much "protein" and other egg-making materials, as grain. It takes the place of worms and bugs in fowls' diet; that's why it gives more eggs—greater fertility—stronger chicks—earlier broilers and layers—larger market fowls, and bigger profits. You

can cut it most easily, rapidly and best with

Mann's Latest Model BONE CUTTER

Automatically adapts cutting to your strength. Never clogs. Cuts all adhering meat and gristle. We send it on 10 DAYS FREE TRIAL. No money in advance. Catalogue free.

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Fire Proofed—Insurable.

INSURABLE INCUBATORS

Do Not Risk Fire Losses on your Home or other Buildings by using an incubator you cannot insure. The Fire Insurance Companies' New Rules provide that every incubator must bear their insurance label or insurance monies cannot be collected. Do not take any risks! STANDARD CYPHERS INCUBATORS—THE WORLD'S BEST HATCHERS—ARE INSURABLE. They bear the official label of the National Board of Fire Underwriters. Write today for our Free 212-page illustrated book which tells you all about it. Address nearest branch.

CYPHERS INCUBATOR COMPANY, Buffalo, N. Y.

Chicago, Ill.; Boston, Mass.; New York, N. Y.; Kansas City, Mo.; Oakland, Cal.

Poultry Secrets Disclosed!



Is this cock properly held? "Poultry Secrets" tells you how to carry fowls, and scores of secrets far more important and hitherto unrevealed.

Poultry Secrets Every successful poultryman knows important facts he never tells. They are peculiar secret methods and records of discoveries he has made in his work with chickens. Some of these he does not regard of sufficient importance to tell, and others he guards with extreme care. They are the foundation of his success and a valuable asset of his business.

We Will Tell You These Secrets

Every secret printed in this book has been obtained in an honorable way, either by permission of the owner or through the experience of Mr. Boyer, our Poultry Editor, who writes the book, and who is one of the ablest Poultry men of the country.

I. K. Felch's Mating Secret

One of the best-known figures in the poultry world is I. K. Felch. Certainly success has crowned his efforts as a breeder of blooded stock. Many years ago Mr. Felch published his breeding chart, but later, realizing its value, he withdrew it and kept the information for himself. He has now given us permission to use this information, and it is included in this book.

Secret of Fertile Eggs

Boyer's secret of securing fertile eggs by alternating males we believe is worth \$100 to any big producer of setting

eggs. It is something new, and the diagrammatic illustration furnished by Mr. Boyer makes the matter so plain that the novice can easily understand it.

The Secret of Feed at 15 Cents a Bushel

An enterprising poultryman has been advertising this secret for \$5.00 and pledging those who buy it not to disclose it to anyone else; it has, however, long been known to a few poultrymen, Mr. Boyer among them, and the method has been fully explained in "Poultry Secrets."

We Will Pay \$10.00 For Any Secret Not in the Book

provided it is practical and valuable.

See conditions of this offer on last page of "Poultry Secrets" when you get it.

Poultry Department of Farm Journal

FARM JOURNAL for thirty years has conducted a poultry department known the country over for the ability of its editors and the value of its contents.

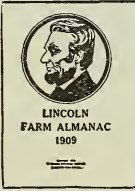
FARM JOURNAL of Philadelphia is the leading farm paper of the country. It is clean, boiled down, cream, not skim milk. It treats topics in season, is written by practical men and women, who know when they have said enough and quit. Its poultry department is strong and ably conducted, and its garden, orchard, household, stock, dairy and other departments are invaluable equally to the expert and beginner.

OUR OFFER: We will send a copy of "Poultry Secrets" and FARM JOURNAL for 5 years, both for only **\$1.00**

And to every one who takes advantage of this advertisement before February 1st, we will send also a copy of the **Lincoln Farm Almanac**, filled with Lincoln stories and helpful matter, for 1909.

WILMER ATKINSON CO.,

1243 Race Street
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Ideal The Low Priced Standard Incubator

25 years of experience in it. Tried and proven. Makes results certain. Send for great free book, "Poultry for Profit." 123 pages, practical, reliable. Worth dollars for fine pictures alone. Free. Send today to



J. W. Miller Co., Box 49, Freeport, Ill.

World's Best Incubator

Has stood all tests in all climates for 15 years. Don't experiment, get certainty. Get a

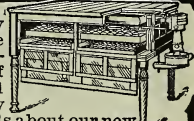
SUCCESSFUL

Incubator and Brooder. Anybody can operate them and make money. Let us prove it to you. Booklet, "Proper Care and Feeding of Chicks, Ducks and Turkeys," 10c. Poultry paper, 1 year, 10c. Write for free catalog. Des Moines Incubator Co., 190 2nd St., Des Moines, Ia.



Ertel's POULTRY DIARY

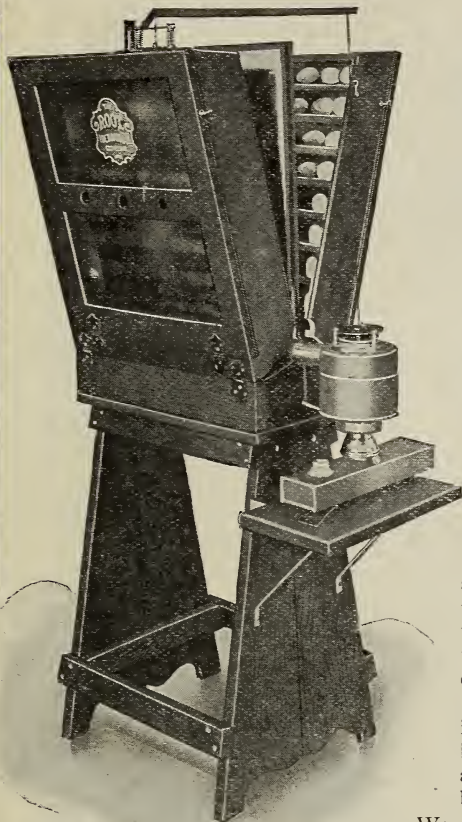
is our new book for the use of poultry raisers. Keep account of your eggs, chicks and profits. Our Diary shows how and also tells about our new Incubators. It tells why our prices are so low. The Diary is free. Better write for it today. Tell us if you are thinking of buying an incubator and what size you want. We pay freight. **Geo. Ertel Co., Quincy, Ill.**



43—leading varieties of pure bred Chickens, Ducks, Geese, Turkeys; also Holstein cattle. Prize winning stock. Oldest and largest poultry farm in the northwest. Stock, eggs and incubators at low prices. Send 4 cents for catalog. Larkin & Hersberg, P.O. 25 Mankato, Minn.

The Root Incubator

is Now Ready for You.



Cooling Eggs.

NO DOUBT, many poultrymen who have used our brooders and found them so successful, and others who have noticed our advertisements, have often wondered why we did not offer an incubator. To these and to other poultrymen we wish to make the above announcement.

Mr. Root, the inventor of the **contact-warmth** incubators and brooders, realized many years ago that the **hot-air** conditions under which eggs were hatched and chicks reared were unnatural; and to avoid these unnatural conditions he came to the conclusion that it would be necessary to hatch eggs and rear chicks by warming them by contact with a warm body.

With this method it is possible to hatch eggs without adding moisture, because the air that gets to the eggs has not been burnt or baked in passing through heating-drums, etc.

The **Root Incubator** will hatch duck-eggs as well as chicken-eggs under the same conditions, without adding moisture or changing the ventilation. This is proof that it is built on the right principle, because a hen will hatch duck-eggs quite as well as her own.

We have prepared a pamphlet under the heading of "**Artificial Incubation and Brooding**," which every poultryman should read, as it dwells upon some phases of this art never before dwelt upon.

We will send a copy of this article free to any one sending us his name and address, and mentioning **GLEANINGS**.

The Root Incubator Co., Desk No. 2, Cleveland, O.



45 Varieties of practical and fancy pure hards, vigorous, bred poultry. Beautiful, hardy vigorous. Largest, most successful poultry-farm. Thousands to choose from. Big **Profitable Poultry** book tells all about it. Quotes low prices on fowls, eggs, incubators, and supplies. Sent for 4 cents. **Berry's Poultry Farm, Box 153 Clarinda, Ia.**



40 BREEDS. Fine pure-bred chickens, ducks, geese, and turkeys. Northern raised, hardy, and very beautiful. Largest poultry farm in the Northwest. Fowls, eggs, and incubators at low prices. Send four cents for fine 80-page Annual Poultry-book.

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Greider's Book On Poultry

sixty prominent varieties, 10c postpaid. Fine, pure-bred stock and eggs at low prices. GREIDER'S GERMICIDE—a sure preventive and an excellent disinfectant. **B. H. GREIDER, Rheems, Pa.**

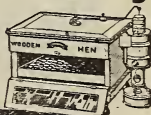
Concise, practical. How to make money with poultry: information as to buildings, treatment of diseases, etc. Fifteen attractive chromos:




Hatch Chickens by Steam

Incubators assure big hatches. Well-built, reliable, practical—thousands in use. Catalogue free.

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All leading varieties pure-bred chickens, ducks, geese, turkeys, pea-fowls, incubators, supplies, collie dogs. Send 4c for large poultry and Inc. book. **J. J. BRENNER, D. 12, Mankato, Minn.**



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AMERICAN FENCE

Made of wire that is all life and strength — wire that stretches true and tight and yields just enough under impact to give back every jolt and jam it receives.

Made of materials selected and tested in all the stages from our own mines, through our own blast furnaces and rolling and wire mills, to the finished product. Our employment of specially adapted metals is of great importance in fence wire; a wire that must be hard yet not brittle; stiff and springy yet flexible enough for splicing—best and most durable fence material on earth.

To obtain these and in addition apply a quality of galvanizing that will effectually protect against weather conditions, is a triumph of the wiremaker's art.

These are combined in the American and Ellwood fences—the product of the greatest mines, steel producing plants and wire mills in the world. And with these good facilities and the old and skilled employes back of them, we maintain the highest standard of excellence possible for human skill and ingenuity to produce.

Dealers everywhere, carrying styles adapted to every purpose. See them.

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ELLWOOD FENCE

The Anthony Fence Tied with the Anthony Knot

A fence built for fence buyers who want the best fence to be had. The Anthony fence is the **"Best Fence on Earth."** Get a sample knot and make your own conclusions—be your own judge. The knot itself is compact, smooth and strong. No kink in the line wires inside the knot. Can be strung up hill or on level with the same ease, and the stays are always parallel with the posts on any slope or hillside.

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That
Knot



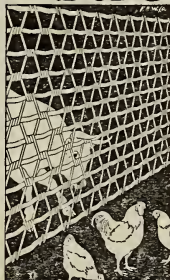
See
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Knot

Woven from Hard Steel Spring Wire—ANTHONY Quality
We buy the best wire we can get. We build the best fence we know how—and **WE DO KNOW HOW.** Not a light cheap fence—not an old style wire "netting." In poultry fence stays are 9 inches apart or 22 per rod, and in standard fence 12 in. apart or 16 stays per rod, and always fastened with the Anthony knot. All lateral wires guaranteed of equal length.

FREE:—Anthony knot, full length souvenir hat pin, and booklet, mailed free. The head is an exact Anthony knot—as it appears in the fence. See the knot yourself and get a hat pin for a member of the family. Write for it now—today.

The Anthony Fence Co., 26 Michigan St., Tecumseh, Mich., U.S.A.

Strongest Fence Made



When you buy our **High Carbon Coiled Spring Fence** you buy strength, service and durability combined. Twenty years of experience—hard knocks, taught us that the best fence is made from heavily galvanized **Coiled Spring Steel Wire**.

CLOSELY WOVEN FROM TOP TO BOTTOM

Our Fence is so closely woven that small pigs cannot "wriggle" through it. So strong the vicious bull cannot "faze" it. We have no agents and do not sell to dealers but sell direct to the user.

AT WHOLESALE PRICES FREIGHT PREPAID

Coiled Wire provides for expansion and contraction and prevents sagging between posts. Every pound of wire used in the construction of our fences made in our own mill from the best high carbon steel obtainable. We give

30 DAYS FREE TRIAL that our customer may be sure they are satisfied. We make a full line of **FARM AND POULTRY FENCE.** Our wholesale prices will save you money. Catalog Free.

COILED SPRING FENCE COMPANY
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15 Cents a Rod

For a 22-inch Hog Fence; 16c for 26-inch; 19c for 31-inch; 22 1-2c for 34-inch; 27c for a 47-inch Farm Fence. 50-inch Poultry Fence 37c. Lowest prices ever made. **Sold on 30 days trial.** Catalog free. Write for it today.

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"KANT-KLOG" SPRAYERS

Something New

Gets twice the results with same labor and fluid. Flat or round, fine or coarse sprays from same nozzle. Ten styles. For trees, potatoes, gardens, whitewashing, etc. **Agents Wanted. Booklet Free.**

Rochester Spray Pump Co. 32 East Ave. Rochester, N. Y.

Spraying
Guide Free



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shall you buy? Buy the Pump that fully meets the demands of the Government Agricultural Scientists and all Practical Fruit Growers. These pumps are known as **Deming Sprayers** made in 23 styles for use in gardens or orchards. Write for our 1909 Catalog with **Spraying Chart.** Add 4 cents postage and get "Spraying for Profit," a useful guide book.

THE DEMING COMPANY,
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FENCE 13c Up Per Rd.

Get our 1909 prices on any style fence. We sell direct, you get all dealers' and jobbers' profit when you buy direct from our factory. Write at once. **Anchor Fence & Mfg. Co., Dept. V, Cleveland, O.**

WE'LL TAN YOUR HIDE



and make warm, comfortable coats with high collars, or into robes, mittens, jackets, ladies' furs, etc. and save you a lot of money as well. We tan by nature's method only and use no chemicals or dyes which cause the hairs to shed. Color makes no difference. Almost any hide looks well when made up into a fine comfortable robe or coat. Will resist cold, wind, rain or snow, are soft and pliable as cloth and very little heavier. Instead of selling your hides to the butcher, let us make them into useful garments that will wear for years and enable you to enjoy the coldest weather.

If you send in your hides now, we will pay the freight on all hides sent to be made into coats and robes and give you **FREE**—with each cow or horse coat or robe a pair of fur-knit-lined mittens with horse-hide palms. If you have no hides to send us, we can

Sell You Furs and Save You Dollars

We not only tan the hides you send us, but we have in stock hides and skins from which we manufacture to measure coats, robes, neckpieces, ladies' jackets, children's coats and fur goods of every description. We make to order any kind of fur goods.

Write today for Catalog and Prices.



THE NATIONAL FUR & TANNING COMPANY

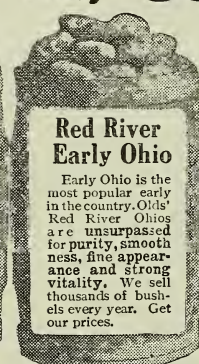
219 Hooker Ave., Three Rivers, Mich.

Olds' Red River Valley Seed Potatoes



Red River Early Acme

Acme is like Ohio but a little earlier and more productive. Our stock this year is very fine, smooth, clean and handsome. Plant our famous Red River grown potatoes if you want a profitable crop.



Red River Early Ohio

Early Ohio is the most popular early in the country. Olds' Red River Ohios are unsurpassed for purity, smoothness, fine appearance and strong vitality. We sell thousands of bushels every year. Get our prices.



Red River White Ohio

Similar to Red Early Ohio except in color, which is a fine white, or nearly so. Just as early, just as good in quality and more productive. 557 bushels have been grown on one acre.



Red River Triumph

Triumph is the earliest of all potatoes. Our Red River Triumphs produce the largest yields as well as growing the quickest crops. The seed is not excelled by any other in the United States.

Red River Seed Potatoes, grown in the cold northwest, are ahead of all others for quick early maturity, vigorous growth and great productiveness.

Olds' Seed Potatoes have a national reputation. 21 years experience growing and handling; our potatoes are known in every section and we are acknowledged headquarters for pure seed of the best varieties. Send Postal for 88 page Catalog giving correct descriptions and true illustrations of the best in Seed, Potatoes, Corn, Oats, Barley, Field Seeds, Garden Seeds, Poultry Supplies and Tools. Prices right.

L. L. OLDS SEED CO.,

Drawer 6, MADISON, WISCONSIN
(Formerly Clinton, Wis.)

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MAKES and burns its own gas. Produces 100 candle power light—brighter than electricity or acetylene—cheaper than kerosene. No dirt. No grease. No odor. Over 200 styles. Every lamp warranted. Agents wanted. Write for catalog. Do not delay.

THE BEST LIGHT CO.

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MUGLER BLDG. CLEVELAND, OHIO.

HOW TO KEEP BEES

By ANNA BOTSFORD COMSTOCK

THIS is an excellent book for the beginner.

Nothing better. We cordially recommend it to all who are learning bee-keeping by their own effort. Having commenced bee-keeping three times, the talented author is in a position to furnish the right kind of advice. You can not go wrong in ordering this book. It is charmingly written and easily understood. Price \$1.10 postpaid by

THE A. I. ROOT COMPANY, MEDINA, OHIO

CLASSIFIED ADVERTISEMENTS

Notices will be inserted in these classified columns at 25 cents per line. Advertisements intended for this department can not be less than two lines, and should not exceed five lines, and you must say you want your advertisement in the classified columns or we will not be responsible for errors.

Honey and Wax for Sale

FOR SALE.—50 cases of raspberry-basswood blend of extracted honey; two new 60-lb. cans to the case, f. o. b. Boyne Falls, Mich., where our north bees are located, at only 9 cents per lb., left on the hives until August before extracting, then nothing but all seasoned honey was put into this grade. The unsealed combs were extracted by themselves, and went to the baker. By this mode of handling there is nothing on the market to compare with this stock, and the price is only a little above the ordinary for this rich, delicious, ripe stock. Many pages could be filled with testimonials of my superior stock of extracted honey, but I have room for only one, the last one in:

WEST SENeca, N. Y., Dec. 2, 1908.

E. D. Townsend, Remus, Mich.

DEAR SIR:—The honey arrived O. K. It is the finest I ever tasted. Yours truly, F. W. HALL.

I can furnish circular and sample of this honey for the asking.

E. D. TOWNSEND, Remus, Mich.

FOR SALE.—My new crop of white-clover extracted honey. Honey has been left in full charge of the bees for three weeks after harvest, and is rich, waxy, and of fine flavor, and is as good as a specialist can produce. Price is 8c. per lb. by the case of 120 lbs. or for the entire crop. Cash to accompany order.

LEONARD S. GRIGGS, 711 Avon St., Flint, Mich.

OUR RASPBERRY HONEY is nearly all sold, and the probabilities are that the crop another year will be pretty slim. If you wish to enjoy some of this truly delicious honey, better send an order soon. One 60-lb. can for \$6.25; two cans for \$12. Sample, 10 cts., and the 10 cts. may apply on first order.

W. Z. HUTCHINSON, Flint, Mich.

FOR SALE.—Here's your opportunity. Clover-basswood honey, extracted. A fancy article at a moderate price. Produced according to teachings of the new school—sealed combs, rich bee flavor, thick and delicious. Also a Rietschie foundation-press. Write.

F. A. STROSCHIN, West Bloomfield, Wis.

FOR SALE.—Buckwheat, amber, No. 2 white comb, \$2.50 per case of 24 sections; unfinished and candied comb, \$2.00 per case; amber extracted ($\frac{3}{4}$ clover), two sixty-pound cans to case, at 8 cts.

QUIRIN-THE-QUEEN-BREEDER, Bellevue, O.

FOR SALE.—Choice extracted honey for table use, gathered from clover and basswood—thick, well ripened, delicious flavor. Price 9 cts. per lb. in 60-lb. cans, two to case. Sample, 10 cts.

J. P. MOORE, Queen-breeder, Morgan, Ky.

FOR SALE.—I have some extracted honey, well-ripened, fine, clover and basswood, in new five-gallon round cans, at \$5.50 a can; sample free; delivered f. o. b. cars here; ought to suit anybody.

MATHILDE CANDLER, Cassville, Wis.

FOR SALE.—Clover and amber honey. Table quality. Write for prices, stating your needs.

C. J. BALDRIDGE, Homestead Farm, Kendaia, N. Y.

FOR SALE.—Comb honey, either car lots or less, both alfalfa and sage. Extracted honey, white, in 60-lb. cans. Samples furnished upon application.

C. C. CLEMONS PRODUCE CO., Kansas City, Mo.

FOR SALE.—Honey by the barrel or case—extracted and comb; a bargain in honey. Write now.

JOHN W. JOHNSON, Box 134, Canton, Mo.

FOR SALE.—About 2000 lbs. of fine comb honey, mostly smartweed and Spanish needles; extra nice.

JOHN A. THORNTON, Ursa, Ill.

FOR SALE.—8000 lbs. fine extracted white-clover honey; also 4000 lbs. light amber, all in 60-lb. cans, at $7\frac{1}{2}$ cts. per lb.

S. E. ANGELL, Harpers Ferry, Iowa.

FOR SALE.—2000 lbs. No. 1 clover and basswood extracted honey in 60-lb. cans.

FRANK MONTEFELT, Juda, Wis.

FOR SALE.—Fine extracted white-clover honey; also light amber ball honey, put up in barrels, 60-lb. and 10-lb. cans. Write for prices.

DADANT & SONS, Hamilton, Illinois.

FOR SALE.—Choicest basswood honey in 10-lb. pails.

F. B. CAVANAGH, Boscobel, Wis.

FOR SALE.—Best quality alfalfa in cases of two 60-lb. cans, \$8.40 per case, f. o. b. here.

H. E. CROWTHER, Parma, Ida.

Honey and Wax Wanted

WANTED.—Comb, extracted honey, and beeswax. State price, kind, and quantity.

R. A. BURNETT, 199 South Water Street, Chicago, Ill.

WANTED.—25 tons of fancy comb honey. Write, stating particulars, to C. M. CHURCH, New Kensington, Pa.

WANTED.—A quantity of white-clover comb honey, averaging light weights, any grade.

B. WALKER, Clyde, Ills.

Bees and Queens

FOR SALE.—Moore's strain and golden Italian queens, untested, \$1.00; six, \$4.00; twelve, \$7.00. Carniolan, Banat, and Caucasian queens, select, \$1.00; six, \$5.00. Tested, any kind, \$1.25; six, \$6.00. Choice breeding queens, \$3.00 each. Circular free.

W. H. RAILS, Orange, Cal.

FOR SALE.—95 colonies of bees in a lump, two-thirds of them in ten-frame hives, 7 in old-style; several gums; the rest, eight-frame; all frames regular size on wired full sheets of foundation, Hoffman and Weed; supplied with bees and honey; healthy so far as I know. What am I offered on stands for the lot?

J. H. COLLINS BRO'S, Bardwell, Ky.

FOR SALE.—Italian bees and queens now ready. Untested, \$1.00; tested, \$1.50. Bee-keepers' supplies, Root's goods. Send for prices. Eggs from Silver-laced Wyandotte poultry.

N. V. LONG, Biscoe, N. C.

FOR SALE.—1000 colonies of bees with fixtures; run principally for extracted honey.

DR. GEO. D. MITCHELL & CO.,
340 Fourth Street, Ogden, Utah.

FOR SALE.—300 nuclei with good queens for spring delivery. Place orders now, and know you get them.

D. J. BLOCHER, Pearl City, Ill.

Wants and Exchanges

WANTED.—Bees for second-hand hives, thoroughly cleaned by steam; size 16x16; 10½ inches deep, ten-frame; suitable for the production of comb or extracted honey. Many of these hives are almost new. Would consider sending a carload to some responsible Texas apiarist in good locality for increase to fill on shares.

THOS. J. STANLEY, Manzanola, Otero Co., Colorado.

WANTED.—Refuse from the wax-extractor, or slumgum. State quantity and price.

OREL L. HERSHNER,
301 Huntington Ave., Buffalo, N. Y.

WANTED.—400 colonies of bees in California or Texas.

DR. GEO. D. MITCHELL & CO.,
340 Fourth Street, Ogden, Utah.

WANTED.—A V-grooving machine or a one-piece-section machine.

L. E. EVANS, Onsted, Mich.

WANTED.—An apiary on shares in California.

P. C. SPRINGBORG, Thermal, Cal.

WANTED.—50 chaff hives for L. frames. State conditions and price.

R. S. MARSHALL, Tribes Hill, N. Y.

Poultry Offers

A. I. Root's Bee-goods, Poultry-supplies, Seeds, etc.

STAPLER'S, 412-414 Ferry St., Pittsburgh, Pa.

For Sale

FOR SALE.—A full line of bee-keepers' supplies; also Italian bees and honey a specialty. Melilotus (sweet clover) seed for sale at 8 cts. per lb. Write for catalog and particulars.

W. P. SMITH, Penn, Miss.

FOR SALE.—One model F. Ford two-cylinder 16-horse-power five-passenger automobile. The rear seat is easily taken off, and we have used this car for delivering honey and for visiting our apiaries—a fine car, good as new. Write us for price and information.

JOHN A. THORNTON, Ursa, Ill.

FOR SALE.—The Young comb-honey cutter for putting up comb honey in sealed containers. Send for booklet.

W. J. YOUNG, Arecibo, Porto Rico.

FOR SALE.—Danzenbaker comb-honey hives and other bee-supplies. Write for prices. ROBT. INGRAM, Sycamore, Pa.

FOR SALE.—Bee-supplies at factory prices.

D. COOLEY, Kendall, Mich.

FOR SALE.—Remington type-writer No. 7, good as new. For particulars address Box A, Gleanings in Bee Culture, Medina, O.

Real Estate for Bee-keepers

PECOS VALLEY of New Mexico lands are coining \$50 to \$65 net per acre per year from alfalfa. Forty-five thousand acres of alfalfa in bloom five times a year, surrounding Artesia, means *honey for the bee-keeper*. Live in an ideal fruit country, where the largest artesian wells in the world constantly pour out their wealth. Artesia, the future Rose City, already has the famous "Mile of Roses." Homeseekers' excursions the first and third Tuesdays of each month. Agents wanted, to accompany parties. Write to-day to R. M. LOVE, General Agent, Artesia, N. M.

FOR SALE.—1½ acres land, one cottage of ten rooms, all in good repair; apple, cherry, and plum trees; grapevines; spring water; 23 hives of yellow three-banded Italian bees with queens; two poultry-houses; school, church, stores, mills, all near by; a stream of water on the place; good roads the year round. For particulars address

MRS. M. A. BOULETTE,
East Brookfield, Mass.

FOR SALE.—Five or ten acres in the beautiful town of Orlando, Fla. Will sell very cheap, or exchange for Canadian property.

C. H. LEWIS,

85 Victoria Ave. N., Hamilton, Ont., Can.

Help Wanted

WANTED.—At once a hustling partner for a 3000-colony bee-business. I have 16 apiaries and a good supply business established. Unlimited bee-range, containing ten varieties of surplus-yielding honey-plants, including both black and white tupelo gum, gallberry, poplar, cotton, ti-ti, etc. State age, experience, and amount of ready capital.

J. J. WILDER, Cordele, Ga.

WANTED.—A thoroughly practical bee-man of ability who has also had experience with poultry and fruit. Give full particulars in first letter as to age, whether married or single, experience in farming, poultry, bees, and fruit; also salary wanted. Give references, and say at what date services could begin.

BLALOCK FRUIT CO., Tenth Sts., Walla Walla, Wash.

WANTED.—Single man to take charge of 500 colonies of bees—one who understands running for comb honey and working outyards. Employment the year round. Services required with other duties when not busy with bees. State wages expected, board furnished.

W. P. SMITH, Penn, Lowndes Co., Miss.

WANTED.—A capable man of good habits for 1909 to run on shares 225 colonies of bees fully equipped for comb and extracted honey. Good location. Give references.

MRS. CARRIE BARTON, Delanson, N. Y. Rt. 3.

WANTED.—A young man of good habits to work in an apiary during the season, and on the farm the rest of the year. State age, experience, and wages expected.

CHAS. ADAMS, Rt. 4, Greeley, Col.

Situation Wanted.

WANTED.—Situation. I have put in 14 straight years of up-to-date bee culture; am able to take charge of large interests; am 36 years old, strictly temperate; wish to work on shares if possible.

Address A. LANZ, Fairmont, Los Angeles Co., Cal.

A competent man wants work in apiary in California or Nevada.

M. S. PHILLIPPE, Campbells, Cal.

Bee-keepers' Directory

Bee-keepers' Supply Co., Lincoln, Neb. We buy car lots of Root's goods. Save freight. Write.

No more queens for sale this fall.

A. W. YATES, 3 Chapman St., Hartford, Ct.

Golden yellow Italian queens my specialty; 1909 price list ready. Safe introducing directions.

E. E. LAWRENCE,
Doniphan, Mo.

ROOT'S BEE SUPPLIES. Send for catalog.

D. COOLEY, Kendall, Mich.

Well-bred bees and queens. Hives and supplies.

J. H. M. COOK, 70 Cortlandt St., New York City.

For bee-smoker and honey-knife circular send card to

T. F. BINGHAM, Farwell, Mich.

ITALIAN BEES, queens, honey, and Root's bee-keepers' supplies.

ALISO APIARY, El Toro, Cal.

Golden-all-over and red-clover Italian queens; circular ready.

W. A. SHUFF, 4426 Osage Ave., Philadelphia, Pa.

QUEENS.—Improved red-clover Italians, bred for business, June 1 to Nov. 15, untested queens, 75 cts.; select, \$1.00; tested, \$1.25 each. Safe arrival and satisfaction guaranteed.

H. C. CLEMONS, Boyd, Ky.

Quirin's famous improved Italian queens ready in April; nuclei and colonies about May 1. My stock is northern bred, and hardy. Five yards wintered on summer stands without a single loss in 1908; 22 years a breeder. Honey for sale.

QUIRIN-THE-QUEEN-BREEDER, Bellevue, O.

Breeding queens of pure Caucasian and Carniolan races—price \$3.00. Order from A. E. Titoff, Expert in Apiculture, with Russian Department of Agriculture, Kieff, Russia. Remit with orders. Correspondence in English.

Convention Notices.

The Southern Minnesota and Western Wisconsin Bee-keepers' Association will hold their annual convention Feb. 23 and 24, 1909, in the court-house at Winona, Minn. All interested are cordially invited.

O. S. HOLLAND, Sec.

Winona, Minn.

The annual meeting of the New Jersey State Bee-keeper's Association will be held at the State House, Trenton, N. J., Jan. 9. The following is the program:

10:00 A.M., roll-call and business session.

10:20, annual address by the president.

10:45, "How I secured 1½ tons of extracted honey from 27 colonies the past season, and increased to 39."—E. G. Carr, Esq., New Egypt, N. J. Discussion.

11:30, question-box. Answers by experts.

1:30 P.M., "Some things the United States Government is doing for the Bee-keeper."—Prof. F. G. Fox, Erwinna, Pa., late Government Apiarist, Washington, D. C.

2:15, "Up-to-date Bee-keeping."—J. H. M. Cook, Esq., Essex Falls, N. J.

3:00, election of officers for the ensuing year.

3:15, question-box, and discussion by experts.

3:30, adjournment.

Please bring samples of honey, both comb and extracted.

GLEO N. WANSER, Sec.,

WM. W. CASE, Pres.,

Cranford, N. J.

Frenchtown, N. J.

The annual convention of the Nebraska State Bee-keepers' Association will be held at 2 P.M., Wednesday, January 20, in room 109, Agricultural Hall, State Farm Campus, Lincoln, Neb. An especially good program has been prepared this year, and all bee-keepers should take advantage of this opportunity of exchanging ideas and receiving practical help for the coming year.

Lincoln, Neb., Dec. 18.

LILLIAN E. TRESTER, Sec.

Convention Notices—Continued.

The third annual convention of the Western Honey-producers' Association will be held January 20 and 21, 1909, in the Library Building, Sioux City, Iowa. This association is composed of bee-keepers residing in Iowa, Minnesota, South Dakota, Nebraska, Utah, and California. They are assisting each other in a way that is worth while, by their systematic advertising, and marketing of honey. We shall endeavor to make this one of the most helpful conventions that the association has held, and we send out a sweeping invitation to all who are interested in progressive bee culture to be present, and to be prepared to give something of interest; and to those who are interested in honey as a food we extend a cordial invitation to be present and see the thought and energy the bee-keepers are putting into their art to produce the best honey possible.

Mr. N. E. France, General Manager of the National Bee-keepers' Association, has promised to be present. One of the prominent features of this meeting will be an effort to secure legislation that will assist in checking the spread of bee diseases in South Dakota and Iowa.

The question-box will be another prominent feature, and now is the time to begin to think about the things that you want to know more about, and to hand them into the question-box.

Salix, Iowa.

E. G. BROWN.

SPECIAL NOTICES

By Our Business Manager

PRICES ADVANCED.

In the new edition of our catalog the prices on Hoffman, thick top, and Danzenbaker frames are marked up about 20 cts. per 100, and the prices on observation hives and Bigelow educational hives are also advanced about 20 per cent. Enamel cloth is advanced to 30 cts. per yard; \$3.00 per piece of 12 yards. Honey-extractors are advanced, as announced last August, because of the increased cost in ball-bearings and slip gear—two new features added for this year.

YELLOW SWEET-CLOVER SEED.

We have received from California over a ton of very nice seed of the yellow sweet clover, all with the hulls off. As we have none of this variety with the hulls on, we can offer it only in the one form, and the price will be 30 cts. per lb., postpaid, or 22 cts. not prepaid; 10 lbs., \$2.00; 25 lbs., \$4.75; 100 lbs., \$18.00. We have a limited quantity of the hulled white, which we can furnish at the same rate. The unhulled white is 7 cts. per pound less.

CAPPING-MELTER.

Our new catalog will include the capping-melter described and illustrated in the Nov. 15th issue of GLEANINGS. It will be made of heavy extra-quality tin, extra coated, and the price, without heating-stove, is \$8.00.

MANUM SWARM-CATCHER.

Our swarm-catchers for this year are being made of 8-mesh galvanized-wire cloth, and are much stronger and more durable than heretofore. This adds to their cost, so that we have increased the price to \$1.25 with pole, or 90 cents without it. The increase in price is trifling compared with the greatly increased strength and lasting quality of the implement.

FOUR-FRAME NON-REVERSING EXTRACTORS.

We have devised a very simple method of producing a four-frame extractor, non-reversing, in a small can, at a moderate price. By taking four comb-pockets, such as we use in the L. size Cowan or Root automatic, and fastening them securely at each corner, and to a frame similar to that used in the Cowan, we have a reel holding four combs, very strong and rigid, which will swing with ample clearance in a can 20 inches in diameter. The combs must be lifted out and turned the other side out, and inserted again before you finish extracting from both sides of the comb, the same as in the Novice. There may be those who prefer to do this for the sake of getting a machine in small compass. We will furnish three sizes:

No. 54, with comb-pockets 9½ in. wide in a can 20 in. in diameter. Price \$16.00.

No. 74, with comb-pockets 12 in. wide in a can 25 in. in diameter. Price \$18.00.

No. 84, with comb-pockets 12½ in. wide and one inch deeper; 24 inches in diameter. Price \$20.00.

BEE-HUNTING.

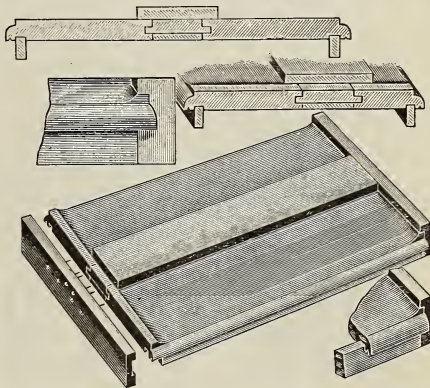
The publisher of that excellent magazine, *Hunter-Trapper*, has just placed before the public a new book which will interest quite a good many of our readers. Its object is sufficiently indicated by its title, "Bee-hunting."

From time to time we have received orders for just such a book and we are glad to see that some one else has undertaken to furnish a work of this kind at a moderate price. In our judgment the book is all it claims to be—a guide to successful bee-hunting from A to Z. There are a good many localities in this country where there are wild bees in the woods and rocks in considerable abundance, and, in more than one sense of the word, it might pay to hunt them. This book gives the information necessary to enable any one, who is intelligent and active enough, to engage in bee-hunting with success. If you do not care to engage in the work yourself, perhaps you have a son or friend who would be glad to take up bee-hunting if he knew how to proceed. Possibly, if you were to present a copy of this book to such an aspirant the wild bees in your locality would be considerably reduced in numbers before long. In some sections there is an opportunity to make bee-hunting pay. In any event it is evident a work on bee-hunting will prove to be interesting in several ways.

The book is well gotten up and well worth the price asked for it, but we are making a special offer of it in connection with GLEANINGS, which places it within reach of all our subscribers. Price 25c postpaid; with GLEANINGS one year, \$1.10. See p. 7.

TELESCOPE EXCELSIOR COVER.

In our new catalog, soon from the press we will list a new cover. We have been furnishing for several years on special orders what we have called the Colorado cover. This is very similar to the E cover with a rim telescoping down over the hive at least an inch. With such a cover it is necessary to use a super



cover over the hive or super to prevent the bees from sticking it fast, so that it would be difficult or impossible to remove it readily. By increasing the width of the end cleats and the cover boards, and adding side strips, we convert our patented Excelsior into a telescope cover, as shown above. Hives will be supplied with this cover and super cover at an extra cost of 10 cents per hive. The cover alone, without super cover, sells for 5 cents each more than the regular E cover.

Paint Without Oil

**Remarkable Discovery that
Cuts Down the Cost of Paint
Seventy-five Per Cent.
A Free Trial Package is Mailed to Every
One Who Writes.**

A. L. Rice, a prominent manufacturer of Adams, N. Y., has discovered a process of making a new kind of paint without the use of oil. He calls it Powderpaint. It comes in the form of a dry powder, and all that is required is cold water to make a paint weather-proof, fire-proof, and as durable as oil paint. It adheres to any surface, wood, stone, or brick, spreads and looks like oil paint, and costs about one-fourth as much.

Write to Mr. A. L. Rice, Manufacturer, 8 North St., Adams, N. Y., and he will send you a free trial package, also color-card and full information showing you how you can save a good many dollars. Write to-day.

Before buying your Comb Foundation, or disposing of your beeswax, be sure to get our prices on wax and foundation, or our prices on working wax into foundation.

We are also in a position to quote you prices on hives, sections, and all other supplies. We give LIBERAL DISCOUNTS during the months of January and February.

Remember that

DADANT'S FOUNDATION

is the very best that money can buy.

We always guarantee satisfaction in every way.

LANGSTROTH ON THE HONEY-BEE (new edition), by mail, \$1.20.

Send for our prices on Extracted, White-clover, and Amber Fall Honey.

DADANT & SONS, . . HAMILTON, ILL.

FOR OVER 25 YEARS

our make of goods has been acknowledged to be in the lead as regards
WORKMANSHIP and MATERIAL.

Our AIR-SPACED HIVE is a most excellent winter hive,

and fully as good and convenient for summer management as the single-walled. Same inside dimensions as regular Dovetailed hives; all inside material interchangeable with Dovetailed hives.

We manufacture full line of BEE-KEEPERS' SUPPLIES.

WINTER DISCOUNTS:

January, 3 per cent. February, 2 per cent. March, 1 per cent.

Catalog free.

W. T. FALCONER MFG. CO., Jamestown, N.Y.

The Wellington Hotel

Cor. Wabash Ave. and Jackson Boulevard
CHICAGO



REMODELED AT A COST OF
\$150,000

**Hot and Cold Running Water and Long
Distance 'Phones in all Rooms**

200 Rooms 100 with Bath Single or en Suite

RATES \$1.00 AND UPWARDS

One of the most unique Dining-rooms in the country.
Our famous Indian Cafe.

Noted for service and Cuisine

McCLINTOCK & BAYFIELD, Props.

BANKING BY MAIL

4%

Money deposited with us is secure, and works for you continually. Our perfect system of Banking **BY MAIL** brings this opportunity to your door.

The Savings Deposit Bank has a capital and surplus of \$70,000, and assets of over \$700,000. Its policy is conservative; its affairs are ably managed by capable and successful business men.

Deposits of \$1.00 and upward accepted, on which we pay a yearly interest of 4 per cent, compounded semi-annually. Send currency in registered letter, your own check; or by P. O. or express money-order.

**Write for the Booklet
To-day.**

Resources
\$800,000.

Established
1892.

**THE SAVINGS DEPOSIT
BANK COMPANY**

MEDINA, OHIO

The Land of Plenty

Why remain where the climatic conditions are so much against you, where it is necessary to battle with the rigors of a long winter?

There are great opportunities in the South, where you can work out of doors the entire year.

ALONG THE SEABOARD AIR LINE

lands that are as productive as yours can be obtained reasonably — prices for your crops as good, if not better. Write for "Fruit and Vegetable Growing in the land of the Manatee," by a western man, containing full particulars. Address

J. W. WHITE
Gen'l Industrial Agt., S. A. L. Railway
Dep't F PORTSMOUTH, VA.

Texas Land \$1.00 To \$5.00 Per Acre

Texas has passed new School Land Laws. Millions of acres are now to be sold by the State at \$1.00 to \$5.00 per acre; only one-fourth cash and no more to pay for 40 years, unless you desire; only 3 per cent interest. You can buy 160 acres at \$1.00 per acre, payable \$4.00 down and 40 years' time on the balance, 3% interest. Greatest opportunity ever offered to investors and farmers. Texas land is better than Oklahoma, Iowa or Illinois. Send 50 cents for Book of Instructions, New State Law, Map of Texas, and brief description of over 400 million acres of vacant public lands in 25 different States, which are open to homestead. Three Books for \$1.00. **E. C. HOWE, 938 Hartford Building, CHICAGO, ILL.**



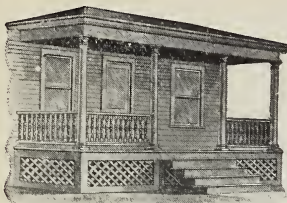
In the green fields OF VIRGINIA

Where the summers are long and delightful; where the winters are short and mild. Here you can grow splendid crops at small cost. Rich soil, abundant water, excellent markets and good neighbors.

Desirable Farms can be secured for
\$10 PER ACRE AND UP

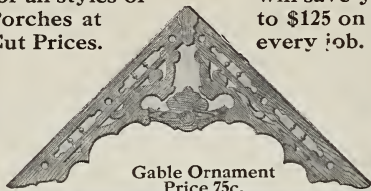
along the N. & W. Ry. Full information and valuable booklet upon request

F. H. LaBAUME
Agricultural and Industrial Agent
Norfolk & Western Railway
Box K2, ROANOKE, VA.



We Sell Millwork
for all styles of
Porches at
Cut Prices.

Our Stair Department
will save you from \$60
to \$125 on
every job.



Gable Ornament
Price 75c.

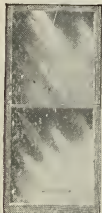


Oak Stairs, Complete, \$28.59.

Millwork for this Porch, \$23.38.



"Graceland"
Door with Plate Glass
\$11.25



Windows, 63c.



Pine Door, 77c.



500 Sq. Feet Best
Bldg. Paper, 37c.

Old Houses Made New at Small Cost!

Write for Grand Free Millwork Catalog
5000 Bargains in Doors, Windows, Mouldings, All
Material for Stairs, Porches, Vestibules, Grilles, &c.
Quality and Safe Delivery Guaranteed Anywhere

Send for handsomely illustrated Free Millwork Catalog showing all kinds of material for building or remodeling. Everything in the latest styles approved by best architects. Each of the 5000 items offered at a bargain price. You can buy, direct from the world's largest building material plant, whatever you require for modernizing both exterior and interior of your home. All styles of doors, from plain pine to finest Art Front Doors of polished hardwood. Prices 80 cents up. Windows in every size and style, from plain windows at 63 cents to magnificent Venetian Art Glass Windows in beautiful color effects. Material for complete flight of stairs, only \$24.73—an actual saving of \$60 to \$125. You will be surprised at the small cost of Hardwood Flooring, Plate Rail, Beamed Ceilings, artistic Mantels, beautiful Grilles and Colonnades, Sleeping Porches and other up-to-date improvements that any carpenter can put in.

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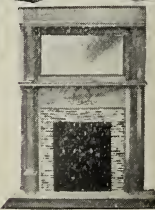
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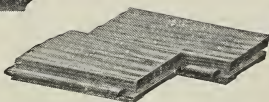
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